QK1
.C1519

CANADIAN HORTICULTURAL HISTORY

an interdisciplinary journal

HISTOIRE DE L'HORTICULTURE AU CANADA

revue interdisciplinaire

Vol. 2, No. 4, 1991

CENTRE FOR CANADIAN
HISTORICAL HORTICULTURAL STUDIES
ROYAL BOTANICAL GARDENS

Hamilton, Ontario
Canada L8N 3H8
Tel. (416) 527-1158
Fax (416) 577-0375

Canadian Horticultural History publishes original research papers on the history of Canadian horticulture and related disciplines. The wide range of interest in all phases of horticulture is interpreted in the broadest sense to include these subject areas: historical garden restorations and reconstructions; biographies of Canadian horticulturists and landscape designers; histories of botanical gardens, arboreta, experimental stations, commercial nurseries and seed firms; accounts of plant breeding work and of plant explorations; ethnobotanical studies of native peoples and early settlers in what is now Canada and the northern United States; and comprehensive bibliographies. There is no limit on the length of papers provided length is appropriate to content. Equally acceptable are short communications, book reviews, announcements and news of conferences.

L'Histoire de l'horticulture au Canada publie des études originales sur l'histoire de l.horticulture et des disciplines connexes au Canada. Elle traite de tous les aspects de l.horticulture dans son acceptation la plus large et couvre donc les domaines suivants: la restauration et la reconstruction de jardins historiques; la biographie d'horticulteurs et de jardiniers paysagistes canadiens; l'historique de jardins botaniques, d'arboretums, de stations expérimentales, de pépinières commerciales et de maisons produisant des semences. On y trouvera des comptes rendus de travaux sur la culture et la découverte de plantes, des études ethnobotaniques portant sur les peuples autochtones et les premiers colons de ce qui constitue maintenant le Canada et le nord des États-Unis, et des bibliographies exhaustives. Nous ne limitons pas la longueur des articles, pourvu qu'elle soit adaptée à leur contenu. Nous acceptons également de brefs communiqués, des critiques de livres, des avis et nouvelles concernant des colloques.

Ina Vrugtman, Editor/Rédactrice en chef

Subscriptions

Each volume will consist of four (4) issues. Each issue will have 40-50 pp. Subscriptions will be sold by volume, NOT by calendar year.

Institutions: $25.00 per volume for Canada; $27.00 for USA and overseas.
Individuals: $20.00 per volume for Canada; $22.00 for USA and overseas.
Single issue: $ 5.00 (vol. 1); $7.00 (vol. 2).

Cheques should be made payable to the Royal Botanical Gardens (CCHHS), and mailed to: CCHHS, Royal Botanical Gardens,
Box 399,
Hamilton, Ontario, Canada L8N 3H8

Abonnements

Chaque volume comprendra quatre (4) numéros de 40 - 50 pages.
Les abonnements se vendront par volume et NON PAS à l'année.

Organismes: 25 $ par volume au Canada; 27 $ aux É.-U. et ailleurs
Particuliers; 20 $ par volume au Canada; 22 $ aux É.-U. et ailleurs
Prix du numéro à la pièce: 5 $ (vol. 1); 7 $ (vol. 2)

Les chèques doivent être libellés à l'ordre de Royal Botanical Gardens (CCHHS) et envoyés à: CCHHS, Royal Botanical Gardens
Box 399,
Hamilton, Ontario, Canada L8N 3H8

CANADIAN HORTICULTURAL HISTORY

an interdisciplinary journal

HISTOIRE DE L'HORTICULTURE AU CANADA

revue interdisciplinaire

Vol. 2, No. 4, 1991

CENTRE FOR CANADIAN
HISTORICAL HORTICULTURAL STUDIES
ROYAL BOTANICAL GARDENS

Hamilton, Ontario
Canada L8N 3H8
Tel. (416) 527-1158
Fax (416) 577-0375

MISSOURI BOTANICAL

JUL 31 1992

GARDEN LIBRARY

CANADIAN HORTICULTURAL HISTORY

HISTOIRE DE L'HORTICULTURE AU CANADA

CONTENTS

Contributions by Moravian missionaries to the knowledge of the flora of Labrador	James S. Pringle	187–222
The botanical persuits of the Rev. Anton Schaffranek (1834–1923)	James S. Pringle	223–242
Miscellaneous announcements		243–245
Erratum		246

Canadian Horticultural History/Histoire de l'horticulture au Canada 2(4): 187-222, 1991

CONTRIBUTIONS BY MORAVIAN MISSIONARIES TO THE KNOWLEDGE OF THE FLORA OF LABRADOR[1]

James S. Pringle

Royal Botanical Gardens
Box 399, Hamilton, Ontario, Canada L8N 3H8

Abstract

From 1765 to ca. 1940, at least 19 missionaries of the Moravian Church in Labrador collected botanical specimens that are now in institutional herbaria. Foremost among the early botanical collectors was Benjamin Gottlieb Kohlmeister (1756-1844), whose specimens were published upon by botanists including W.J. Hooker, T. Nuttall, F. Pursh, and L.D. de Schweinitz. Later, major contributors of plant specimens included Johann Georg Herzberg (1792-1864), Samuel Weiz (1823-1888), (Gottlieb) Adolph Stecker (1859-1939), and (Richard) Paul Hettasch (1873-1949); specimens from the two last-named were frequently cited by M.L. Fernald and his colleagues at Harvard University.

Résumé

De 1765 aux anneés 1940, au moins 19 missionnaires de l'Église de Moravie au Labrador récoltèrent des spécimens botaniques qui font maintenant partie des herbiers de différentes institutions. L'un des plus importants pionniers fut Benjamin Gottlieb Kohlmeister (1765-1844); ses spécimens furent l'objet de publications par des botanistes tels W.J. Hooker, T. Nuttall, F. Pursh et L.D. de Schweinitz. Parmi les autres collectionneurs importants de spécimens végétaux, on retrouve Johann Georg Herzberg (1792-1864), Samuel Weiz (1823-1888), (Gottlieb) Adolph Stecker (1859-1939) et (Richard) Paul Hettasch (1873-1949); les spécimens de ces deux derniers furent d'ailleurs cités fréquemment par M.L. Fernald et ses collègues de l'Université Harvard.

Traduction de Céline Arsenault, Jardin botanique de Montréal

Introduction

Until the 1890s nearly all botanical specimens from Labrador north of Hamilton Inlet were those collected by missionaries of the Moravian Church (Church of the United Brethren; Unitas Fratrum; Brüder-Gemeine). These included all of the specimens upon which three publications on the flora of Labrador (discussed below) were based; many of the Labrador specimens cited in the major floras by Pursh (1813), Hooker (1829-1840), and Torrey & Gray (1838-1843); and most of the Labrador specimens acquired by botanists in the United States during the first half of the nineteenth century. However, despite the importance of their specimens in the early history of North American floristics, the Moravian plant collectors in Labrador, with one exception, are mentioned only rarely in the standard references of North American botanical history, and even then basic biographical data are often lacking. The exception is Benjamin Gottlieb Kohlmeister, whose specimens were

Publication date: February 1992

cited many times in the floras noted above, but even for Kohlmeister there are discrepancies in the biographical data given in botanical references. Also, because of confusion among the collectors, distributors, and recipients of specimens, persons who were never in Labrador are often cited as the collectors of Labrador specimens.

There are many articles and books on the early history of the Moravian missions in Labrador. Those by Holmes (1827), Anonymous (1835), Roemer et al. (1871), Davey (1905), and Peacock (1976) were particularly useful in the present study. Biographical data on the missionaries were obtained largely from periodicals in Reeves Library of Moravian College, Bethlehem, Pennsylvania, and the Moravian Archives in the same city. During the first century of Moravian mission work in Labrador it was a common practice for a missionary, upon retirement, to write an autobiographical sketch, or Lebenslauf, which would be published with editorial annotations after his or her death. The *Periodical Accounts*,[2] published by the Moravian Church in England, also included letters from the missions, excerpts from diaries, and statistics ("miscellaneous intelligence" in the earlier volumes, later "editorial notes") on calls to and retirements from the missions, furloughs, marriages, and deaths. At the Moravian Archives there is an index to all personal names in this periodical. These include the signatories to the letters and reports from the missions, who were generally all of the missionaries at the respective posts. For those missionaries of whom no biographical sketch could be found, biographical data were pieced together from such statistics in the *Periodical Accounts*, here cited "passim," being too numerous for individual citations. Unfortunately, toward the end of the nineteenth century the volumes of the *Periodical Accounts* became slimmer and provided less and less biographical information, and further reduction and specialization occurred in the 1920s. *Moravian Missions*, also published in England, became more useful as a source of biographical data on the more recent missionaries. All Moravian church periodicals at Reeves Library were searched for such data, and a few dates and places of birth and death were obtained from the card index to biographies at the Moravian Archives. Some biographical data were obtained from notes and manuscripts now at Dartmouth College, Hanover, New Hampshire, compiled by Herma Briffault for the abortive *Encyclopedia Arctica* project; these incorporate information contributed by Bishop S.H. Gapp of Bethlehem (in earlier years at Herrnhut, below). A few pieces of information were added by perusing *Them Days*, a journal of Labrador history published at Goose Bay, comprising in large part the reminiscences of long-time Labrador residents. Inevitably, however, the biographical coverage of the respective missionaries in the present paper is very uneven and is often not proportionate to their contributions to botany.

This paper does not, of course, fully represent the interest in and knowledge of the flora of Labrador possessed by the many Moravian missionaries who have served there. Its coverage is concentrated on those who contributed herbarium specimens to botanists and to institutions where these specimens have been and continue to be available for study by plant scientists.

The first part of this paper covers botanical activity by any of the Moravian missionaries in Labrador more or less in chronological order, as it deals with voyages of reconnaissance and with only one or two established mission sites. Subsequent portions, in contrast, generally follow the careers of the respective missionary naturalists, most of whom served more than one post. Therefore, as a cross-reference, Table I lists the mission sites, under each of which appear the names of the missionaries who served there and the years of their service. Although many others served in Labrador, only those missionaries known to have prepared botanical specimens are listed in this table.

Table 1. Moravian missions in Labrador served by missionaries known to have prepared botanical specimens, with the dates of service of the respective missionaries at each station.

NAIN 1771-

Brasen, C. 1771-1774
Haven, J. 1771-1776, 1781-1782
Lundberg, J. 1811-1816; J. & H.A. 1819-1827, 1829-1850
Kohlmeister, B.G. 1818-1824
Henn, C.B. 1820-1824, 1825-1836
Glitsch, Z. 1823-1827
Herzberg, J.G. 1834-1837
Weiz, S. 1850-1852, 1863, 1865-1868, 1880-1884
Stecker, G.A. 1886
Martin, C.A. 1888-1889, 1900-1917, 1923
Schmitt, C. 1897-1900, 1901-1910, 1911-1912
Perrett, W.W. 1906-1913
Hettasch, R.P. 1914-1932, 1934-1947

OKAK 1776-1919

Haven, J. 1776-1777, 1778-1781
Kohlmeister, B.G. 1790-1802
Knauss, G.F. 1815-1838, 1841-1852
Lundberg, J. 1816-1819
Henn, C.B. 1819-1820, 1836-1840
Mentzel, J. 1819-1829
Herzberg, J.G. 1824-1833, 1837-1848
Glitsch, Z. 1828-1833
Weiz, S. 1852-1863, 1869-1871
Stecker, G.A. 1886, 1887-1893
Perrett, W.W. 1892-1893, 1895-1896
Schmitt, C. 1893-1897
Hettasch, R.P. 1909-1912

HOPEDALE 1782-

Haven, J. 1782-1784
Kohlmeister, B.G. 1802-1806, 1810-1818
Glitsch, Z. 1822-1823, 1833-1844
Henn, C.B. 1824-1825
Lundberg, J. & H.A. 1828-1829
Knauss, G.F. 1838-1841
Kruth, F. 1847-1863
Weiz, S. 1863-1865
Stecker, G.A. 1884-1886
Perrett, W.W. 1896-1898, 1902-1904, 1915-1936
Hettasch, R.P. 1898-1908, 1912-1914

HEBRON 1830-1959

Mentzel, J. 1829 (site), 1831-1855, 1856-1865
Kruth, F. 1830-1840
Glitsch, Z. 1844-1847

Table 1. *(Concluded)*

	Herzberg, J.G. 1848-1849 Hlawatschek, M.A. 1875-1898 Martin, C.A. 1917-1923
ZOAR 1865-1894	
	Stecker, G.A. 1886-1887
RAMAH 1871-1908	
	Weiz, S. 1871-1880 Schmitt, C. 1891-1893 Perrett, W.W. 1893-1895 Stecker, G.A. 1893-1896, 1897-1900
MAKKOVIK 1895-	
	Perrett, W.W. 1898-1902 Hettasch, R.P. 1932-1934
KILLINEK 1904-1924	
	Perrett, W.W. 1905-1906

Standard abbreviations for herbaria are used in this paper, following Holmgren et al. (1990).

Names of some missionaries vary from one reference to another. Missionaries often changed their given names to linguistic counterparts as they moved from one country to another, or according to the language in which they were writing. Further anglicization was sometimes imposed by translators and by the editors of English-language journals. In view of the frequency with which boundaries and official languages changed in Europe, especially during the Napoleonic era, it would sometimes be difficult or impossible to determine which form of a missionary's name was the original. Also, missionaries frequently dropped from general use the first of their two given names, e.g. (Gottlieb) Adolph Stecker and (Richard) Paul Hettasch. Some appear to have reversed the sequence on occasion. Surnames were generally more stable, except that "z" in Germanic names was often changed to "tz" in English publications to maintain phonetic constancy. Other occasional variations in surnames include "ck" vs. "k"; "sch" vs. "sh"; and terminal "ss" vs. "s."

Orthographic variation also occurs in place names, especially in those of Inuktitut origin, but few such variations are likely to cause confusion. Nappartok is now Napaktok Bay; Cape Chudleigh is an earlier version of Cape Chidley; and Hoffenthal is the German equivalent of Hopedale. The site of Hopedale was called Avartok prior to the establishment of the mission; Hebron was Kangertuksoak, Zoar was Takpangayok, and Ramah was Nullatartok. The mission at Killinek was briefly known as Kikkertaujak; the present town at the site is Port Burwell, Northwest Territories, on Killiniq Island.

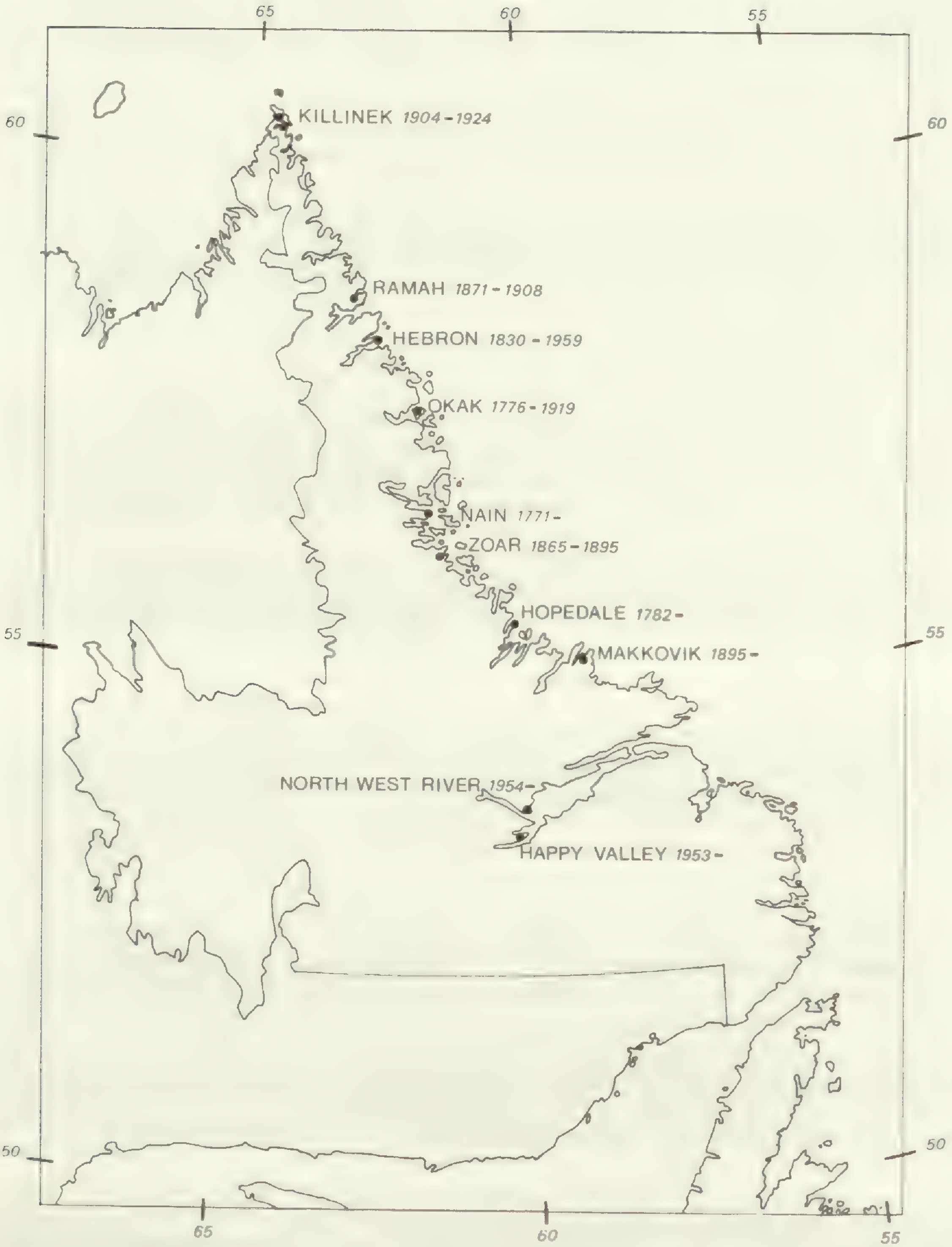
Mission Sites and Environments

The locations of the Moravian missions in Labrador are shown in Fig. 1. Although there was little woody vegetation immediately along the coast, extensive woodlands existed in valleys near Hopedale and Nain, black and white spruce being the dominant trees, with lesser numbers of tamarack, fir, and birch. Willows and alders formed dense stands along the riverbanks. Hopedale was considered to be "one of the most pleasant places on the Labrador coast," with relatively warm and sunny summers. Here all but the exposed summits were forested. Packard (1891) was impressed by the rhubarb, potatoes, cabbages, and turnips in "Hopedale's protected gardens," and by the large greenhouse in which tomatoes, lettuce, and flowers were grown. Nain (Fig. 2) likewise had relatively mild summers, which permitted good vegetable gardens at the mission. Spruce woods extended to the edge of the settlement, with the trees attaining considerable size in the valleys, but tundra vegetation prevailed on the plateaus. There were extensive outcrops and cliffs that supported little vegetation other than lichens.

Climates were colder at Okak and Zoar. The vegetation of the island on which Okak was located consisted only of low shrubs and herbaceous plants, mostly graminoids. Nevertheless this mission, situated at the head of an inlet and surrounded by high hills, was considered "a paradise ... because the gardens [were] so good" by one missionary. Trees did prevail in the valleys on the nearby mainland. Samuel Weiz (in Packard 1891) considered the climate in the vicinity of Okak to be significantly milder than that of more exposed areas in that part of Labrador, and was impressed by the richness of the local flora. The Inuit found the hunting and fishing good at Okak, but for many years there was little "outside" contact for the missionaries. Okak's native population was nearly wiped out by the epidemic of Spanish influenza in the autumn of 1918, and the site was abandoned the following year (Anonymous 1919, 1975). Hunting and fishing were not so good at Zoar, and this relatively late-founded mission was discontinued after about 29 years, because of the declining native population in the area.

Hebron was a bleak, treeless, windy site, with little "outside" contact until well into the twentieth century, and was "reputed to be the most difficult" of the Moravian missions in Labrador, at least until the mission at Ramah was established. The indigenous population at Hebron was greatly reduced in numbers by an epidemic of syphilis in the early years of the twentieth century (MacMillan 1912) and by Spanish influenza in 1918, when two-thirds of the population died (Anonymous 1919, 1975). Ramah, farther north, was bleaker and colder yet, and storms were frequent. Gardening was virtually impossible. Although the missionaries had long hoped and planned for a mission at this site, the mission was short-lived. It was reduced to an "out-station" or "filial" of Hebron and then abandoned altogether, as the Inuit, who found the hunting and fishing poor, deserted the area.

Killinek was the most barren mission site of all, situated among boulder fields and low hills, with rain and fog prevailing during the brief summer. The windswept plateaus and summits were devoid of vegetation. In the sheltered valleys, however, there were some mosses, graminoids, and forbs, and on the surrounding slopes there were lichens, subshrubs, and prostrate willows. This mission was less isolated than some, because the harbour was visited by vessels en route to Hudson Bay. The Canadian government had maintained an observation station there since 1885, later accompanied by a lighthouse and a customs office. There was also a Hudson's Bay Company post; competition for trade and the H.B.C.'s view of the Moravian presence as an "infringement" upon its territory contributed to the short



Map of Labrador, showing sites of Moravian missions.

Nain, Labrador, 8 July 1934 (photos taken by Donald Baxter MacMillan and associates, from the Peary-MacMillan Arctic Museum, Bowdoin College, Brunswick, Maine).

life of the mission. (Descriptions of sites from Wheeler 1930, 1935; Hutton 1936; and [for Killinek] Hantzsch 1909 and Briffault 1949.)

Makkovik, the southernmost of the first six mission sites, was from its inception primarily a mission to a "settlers'" community, rather than to the native people. (This had become true of Hopedale as well by 1896.) Its surroundings were largely forested except for the more exposed sites. The Moravian churches at Happy Valley and North West River, from which no specimens collected by missionaries were encountered in this study, were established much later, largely from concern about the impact of military and commercial installations in the Goose Bay area on the indigenous (predominantly Montagnais-Naskapi and métis) population.

Early Botanical Collecting – the Banks Era

The earliest botanical collecting by Moravian missionaries in Labrador is associated with the interests of Joseph Banks (1743-1820; Sir Joseph, Bt., after 1795). Banks, during his student days, lived at Turret House in Chelsea, near the Chelsea Physic Garden, and acquired much of his knowledge of botany under the tutelage of Philip Miller, Curator of the Chelsea Physic Garden from 1722 through 1770. Turret House was also situated near Lindsey House, the Moravian headquarters in England, and this may, as suggested by Lysaght (1971), have influenced Banks's deeply religious, widowed mother in her selection of this residence in 1761. Lysaght's studies indicated that Banks "was greatly influenced by the teachings of his Chelsea neighbours, the Moravians," and that "the Moravians' accounts of life in Greenland and their plans for settling and working with the Eskimos in Labrador" were probably among the factors "that stimulated Banks's interest in North America and led him to make his Newfoundland journey."

The successful establishment of Moravian missions in Labrador dates from 1764, when Labrador was visited by Jens Haven, one of the most renowned figures in Moravian mission history. Haven was born 23 June 1724 at Wust, Jutland. In his youth he became an apprentice to a joiner in Copenhagen who was a member of the Moravian Church, and who persuaded Haven to join the Brethren. Having heard of Johannes Erhardt's tragically unsuccessful attempt to establish contact with the Inuit of Labrador, Haven developed a desire to go to Labrador as a missionary, but he was first sent to Greenland in 1758. He remained there until 1763. Then, after a year's furlough at Herrnhut, Saxony (now Germany), the world headquarters of the Moravian Church, Haven was sent to Newfoundland and Labrador to explore the possibilities of a Labrador mission. After negotiating with officials in Newfoundland, Haven sailed on an Irish fishing boat to Labrador. He found that his knowledge of Greenlandic Inuktitut sufficed for communication with the Labrador natives, and was so much encouraged by this visit that, upon his return to England and Herrnhut, he arranged for four missionaries, including himself, to reconnoiter the Labrador coast for mission sites the following year (Holmes 1827; Anonymous 1835; Hiller 1971, 1979; Peacock 1976). Banks, upon learning of the plans for this expedition, evidently expressed an interest in acquiring whatever biological specimens the missionaries might be able to obtain (Lysaght 1971, esp. p. 45).

Through an arrangement with the Royal Navy the four missionaries sailed aboard H.M.S. *Lark* to Croque, Newfoundland, where they transferred to H.M.S. *Niger* (on which Banks sailed a year later), on patrol in the Fishery Protection Service. At Château Bay, southern Labrador, the captain insisted that two of the missionaries remain with the *Niger*, so that interpreters would be available should any Inuit visit

the ship, but permitted the others, Haven and Christian Andreas Schlözer, to board the northward-bound snow *Hope* (Briffault 1949; Hiller 1971; Lysaght 1971, including material from Haven's journal and the log of the *Hope*).

The *Hope* left Château Bay 23 July 1765 and sailed along the coast as far as the present site of Nain, although the missionaries would have preferred to continue farther north. From 3 to 7 August the *Hope* remained at anchor there, and the missionaries were able to go ashore. Schlözer, who evidently had some knowledge of botany, recorded his observations of the vegetation and was able to fulfill Banks's request to collect botanical specimens. Also during this voyage, Schlözer prepared maps of the Labrador coast, which were superior in quality to other maps of that period. The *Hope* rejoined the *Niger* at Château Bay 3 September 1765 (Anonymous 1835; Lysaght 1971). As there were no Moravian missionaries on the Labrador coast in 1766, specimens in Banks's herbarium (now at BM) attributed to the Moravians and dated 1766 were doubtless collected in 1765 by Schlözer and possibly also by Haven and acquired by Banks the following year.

Biographical data on Schlözer are otherwise deficient. The dates of his birth and death are lacking from the usual sources of such data in Reeves Library. He evidently did not return to Labrador, and he is not otherwise known to have collected botanical specimens.

Two specific names, both still in use, were evidently based on specimens obtained by Schlözer on the *Hope* expedition: *Solidago multiradiata* Ait. and *Pedicularis labradorica* Wirsing. The former was probably based on a specimen seen in Banks's herbarium (Lysaght 1971, p. 346), but the latter, according to Lysaght (1971, p. 343), was probably based on a duplicate specimen from Banks's herbarium perhaps sent by Georg Dionysius Ehret of London to Christoph Jakob Trew, a naturalist and patron of the arts with whom Wirsing was associated in Nuremberg. Aside from a specimen collected after Ehret's death in 1770, *P. labradorica* is represented in Banks's herbarium only by an undated, but presumably pre-1770, series of specimens attributed by Banks to "Soc. Unit. Fratrum."

Four years of negotiations between the Moravian Church and the Board of Trade and other agencies of the Crown followed the Moravians' voyages aboard the *Niger* and the *Hope*.[3] Haven spent this time in the Moravian communities at Fulneck, England, and Zeist, The Netherlands. He led another expedition in 1769, when the site was selected for the mission at Nain. Then he returned to England and began work on the components of buildings to be assembled at Nain. On 12 April 1771 he married Mary Butterworth from the Moravian community at Fulneck, by whom he had two sons (Haven 1798; Anonymous 1835; Roemer et al. 1871; Hiller 1971, 1979; Peacock 1976).

The missionaries arrived at Nain in the summer of 1771 and began assembling the buildings. Haven was a member of this group, but the superintendent selected for the mission was Christoph Brasen, a "skilled surgeon" also knowledgeable in botany. Brasen was born 3 January 1738 at Ripen, Jutland (now Ribe, Denmark), and came to Labrador in 1771 with his wife, née Maria Catharina Federhahn, also from Ripen, as one of the group of missionaries and assistants who founded the mission at Nain. Lieutenant Roger Curtis (quoted by Davey 1905) found Brasen to be "a man of learning and penetration," fluent in Inuktitut (from his earlier service in Greenland, noted below), and arranged for Brasen to accompany him on his next exploratory voyage along the Labrador coast. This, however, was not to be, because Brasen died 15 September 1774. En route back to Nain after a reconnaissance voyage to the site where the mission at Okak was later established, Brasen's vessel went on the rocks

and was broken up by the sea; Brasen drowned in the attempt to reach shore (Anonymous 1835; Roemer et al. 1871; Davey 1905; Peacock 1976).

Prior to his service in Labrador, Brasen had spent some time at the Moravian mission at Godthåb (now Nûk), Greenland. In 1767 and 1768 he collected plant specimens in the vicinity of Godthåb Fjord (Porsild 1935a). These are now at C.

Brasen is known to have collected botanical specimens in Labrador because of those cited by Georg Heinrich Weber, professor at Kiel, in his *Plantarum Minus Cognitarum Decuria*. (This work is sometimes credited to Sebastien Grauer. According to Sprague [1922], Weber was actually the author of this work and of the new botanical names therein. Grauer, the "respondent," discussed or defended it as a requirement for his doctorate.) *Ribes glandulosum*, described therein as a new species, was based on a specimen obtained by Brasen in Labrador (Lysaght 1971). What became of Weber's herbarium is uncertain; much of it may have been at KIEL, since destroyed (Stafleu & Cowan 1988).

The mission at Okak, for which Brasen and his shipmates had been reconnoitering, was established in 1776 by Haven and Stephan Jensen (1724-1796). Haven remained at Okak until his furlough the following year. After visiting England, the Moravian seminary at Niesky, Saxony (now Germany), and Herrnhut, Haven returned to Okak via Nain in 1778 and remained there for three years. In 1778 he returned to Nain to work on the buildings to be assembled at the new mission at Hopedale. The next year he took the partially assembled buildings to Hopedale, where he remained until 1784. Then, finding that his health no longer permitted service in Labrador, he retired to Herrnhut, where he died 16 April 1797 (Haven 1798 and ed. notes therein; Hiller 1979).

Lysaght (1971) has noted the presence of a specimen of *Pedicularis labradorica* in the Banks herbarium from "Okkap" [sic], dated 1778. This specimen was probably collected by Haven, in response to Banks's request.

According to Lysaght (1971, p. 330), a specimen of *Potentilla crantzii* (Crantz) G. Beck "was collected for Banks ... by Mr. LaTrobe from `Labrador Okkak the northernmost settlement of the Moravians 1778.'" Mr. LaTrobe is identified elsewhere in the same work as Benjamin LaTrobe (1725-1786), a prominent figure in the Moravian Church in England and father of the noted American architect and engineer Benjamin Henry LaTrobe. It is clear from the *Periodical Accounts* and other records of the missions, however, that Benjamin LaTrobe did not himself visit Labrador, nor did any other family members bearing the LaTrobe surname until 1888. LaTrobe must have conveyed specimens to Banks that had been collected and sent to him by someone else, presumably Haven.

Benjamin Gottlieb Kohlmeister

One of the most prominent Moravian missionaries in Labrador, in both botanical and mission annals, was Benjamin Gottlieb Kohlmeister. Kohlmeister was born at Reisen (now Rydzna, Poland, near Leszno) in the Grand Duchy of Posen 6 February 1756. In his early years he assisted his parents in the family bakery business, then in 1772 he became an apprentice cabinetmaker in Warsaw. Having become attracted to the Moravian Church, Kohlmeister decided in 1778 to relocate in Herrnhut, where for the next twelve years he operated a furniture-making business. He then acceded to a request to become a missionary in Labrador, and went to Okak in 1790.

Kohlmeister remained at Okak until 1802. In 1793 he married Anna Elizabeth Reimann, who was also a missionary at Okak. (Ordinarily, single sisters came to Labrador only as brides, but Elizabeth Reimann had been accompanied by her brother.) In 1802 the Kohlmeisters went to Hopedale, where they served until 1806. During this time Kohlmeister established a remarkable record of conversions to Christianity and became known as one of the Moravians' best preachers and writers. He also served in other roles, including those of medical practitioner and manager of trade with the Inuit at Okak.

In 1806 the Kohlmeisters returned to Europe to enroll the first of their four children in the Internatsschulen der Brüdergemeine at Kleinwelka (now Germany), where most of the missionaries' children were educated at that time, but she died of scarlet fever shortly after their arrival. The Napoleonic wars delayed the Kohlmeisters' return to Hopedale until 1810. In the interim Kohlmeister traveled to various places in Europe, spent some time in London at the Moravian offices and the British Bible Society, and worked on an Inuktitut Bible and Harmony of the Gospels.

While on furlough Kohlmeister had obtained approval for a voyage to northern Labrador and Ungava Bay to reconnoiter sites for additional missions. In 1811 he, fellow missionary Georg Kmoch,[4] and several Inuit made a voyage of 103 days to Nullatartok (now Ramah) Bay, where they spent twelve days exploring the surrounding territory, thence to Nachvak Bay, past Killinek Island, through Gray Strait, and south to the mouth of the George River (then Kangertlualuksoak; present name given by Kohlmeister and Kmoch). After four days exploring the vicinity of the George River estuary they proceeded west to the Koksoak River. At a locality that they named Pilgerruh, near the site of present-day Fort Chimo, they observed trees up to 20 feet tall and "juniper and currant berries in abundance," and were assured by the natives that game was plentiful all year. This was considered a good site for a mission, but neither this nor any other projected missions on Ungava Bay were ever established. Kohlmeister and Kmoch's account of their expedition included observations of the vegetation at Ramah Bay and elsewhere. Kohlmeister also made voyages to the site of Hebron in 1816 and 1818. He is credited with having "made some valuable contributions to the study of the weather and tides in Labrador," and also to the study of the Inuktitut language through his many translations (Briffault 1949).

In 1818 Kohlmeister was made Superintendent of the Moravian missions in Labrador, with his headquarters at Nain. In this capacity he traveled frequently to the other mission sites. In 1824, feeling that neither his health nor that of his wife permitted further service in Labrador, he retired, going to London for about a year, then to Herrnhut. There his health improved and he assumed responsibility for the ministry to the married division of the Moravian congregation at Neusalz, Silesia (now Nowa Sól, Poland), and the dispersed members in that area. He died at Neusalz 3 June 1844 (Anonymous 1835; Kohlmeister 1845; Kmoch 1858; Briffault 1949; *Periodical Accounts* passim).

Kohlmeister's botanical specimens far outnumbered those collected by any other Moravian missionary in Labrador and were more widely distributed. On the European continent specimens collected by Kohlmeister were acquired by Johann Christian Daniel von Schreber, director of the botanical garden at Erlangen, Bavaria. This was the same Schreber who, in 1789, in his revision of Linnaeus's *Genera Plantarum* (= ed. 8), had published the name *Brasenia* for a nymphaeaceous genus widespread in North America and elsewhere (although not in Labrador). At that time Schreber had probably not received any specimens from Labrador and certainly none collected by Kohlmeister, but a connection with the Moravians is thereby

demonstrated that could well have begun before 1789. It seems quite likely that some Moravian churchman who sent specimens to Schreber and who knew of Christoph Brasen's contributions to botany suggested that Schreber name a plant after Brasen.

Schreber did not publish upon the Labrador plants collected by Kohlmeister, but after Schreber's death in 1810 the specimens went to Franz von Paula von Schrank, professor at Munich. In 1818 Schrank published a paper on the flora of Labrador, including descriptions of several new species, based on Kohlmeister's specimens (now at M). None of these species is now recognized under the name given it by Schrank, with the occasional exception of *Viola labradorica*, which, however, has more often been included in *Viola adunca* Sm. in recent years.

Sir Joseph Banks, after his own trip to Newfoundland and southern Labrador in 1766, remained especially interested in specimens from these regions. He arranged to acquire specimens collected by Kohlmeister through Philip Hurlock (1713-1801), a Moravian Church official "who always took pleasure in serving the missionaries passing through London" (Morhardt et al. 1802; Allen 1984). Specimens from Banks's herbarium, which later became the nucleus of the herbarium of the British Museum (Natural History) (BM), were studied by Frederick Pursh and were cited in Pursh's (1813) *Flora Americae Septentrionalis*. Later these specimens were studied by Sir William Jackson Hooker and were cited in his (1829-1840) *Flora Boreali-Americana*.

Another recipient of Kohlmeister's specimens in the United Kingdom was James Dickson, herbalist and seedsman of Covent Garden, London. Dickson's herbarium was also studied by Pursh, and several of Pursh's new species were based on Kohlmeister's specimens seen in Dickson's herbarium. Those still bearing the names or at least the specific epithets given them by Pursh are *Arnica plantaginea* Pursh, *Platanthera dilatata* (Pursh) Lindl. ex Beck, and *Senecio pauciflorus* Pursh. Later, after Dickson's widow had presented his herbarium of vascular plants to the Linnean Society of London (LINN), these specimens were studied by Hooker. Some of Kohlmeister's specimens were also acquired by William Jameson, then of Edinburgh (later of Quito). The fate of Jameson's own herbarium is unknown (Stafleu & Cowan 1979), but many specimens given by him and by Dickson to other botanists are now at BM, E, K, PH, and elsewhere.

The greatest number of Kohlmeister's specimens seen by Pursh were probably those acquired by Aylmer Bourke Lambert, of London and Boyton, Wiltshire, who was Pursh's patron in 1812-1813, while Pursh was working on the *Flora Americae Septentrionalis*. (On Lambert and his herbarium see Miller 1970.) The name *Salix vestita* Pursh, still accepted, was based on a specimen from Labrador attributed to "Soc. Unit. Frat." that Pursh saw in Lambert's herbarium. Lambert's herbarium was also studied by other major botanical authors, including Hooker Although Kohlmeister was not listed by Miller (1970) among the collectors represented by specimens in Lambert's herbarium, Mears (1983) has noted the presence of some of Kohlmeister's specimens in that portion of Lambert's herbarium now at PH. In view of the early dates it is unlikely that any of Lambert's Labrador specimens were collected by anyone else. Lambert acquired at least some of these specimens through Hurlock, as indicated by specimens from his herbarium attributed to Hurlock, who was never in Labrador. Others were evidently acquired from Dickson. When Lambert's herbarium was sold at auction following his death in 1842, his Labrador plants were part of lot #256, comprising North American plants from several sources. This lot was purchased by Edward Tuckerman of Philadelphia. Tuckerman lent these specimens to Asa Gray, and later presented them to the

Academy of Natural Sciences of Philadelphia (PH) (Miller 1970). Lambert had previously allowed Hooker to select specimens from British North America for the latter's herbarium (Miller 1970), so some Kohlmeister specimens from Lambert's herbarium might have reached K via Hooker's herbarium.

Before the *Flora Boreali-Americana* was completed, Hooker saw Kohlmeister specimens from at least two additional sources. In time for citations in the fourth part of the *Flora*, published in 1832, Hooker himself had acquired some of these specimens, through the agency of his friend Thomas Davidson[5] of Nottingham, England (Hooker 1829-1840, I:182). These specimens are now at K. Shortly thereafter, Peter LaTrobe, Secretary of the Moravian Church in Great Britain (on whom see Barnhart 1935), allowed Hooker to examine the "beautiful collection of the plants" of Labrador that Kohlmeister had assembled there, and which he had brought to England upon his retirement. The subsequent fate of this herbarium is unknown.

In the United States numerous Kohlmeister specimens were acquired by Lewis David de Schweinitz. Schweinitz was born at Bethlehem, Pennsylvania, and was educated at the Moravian theological seminary in Niesky. Following pastoral work in Saxony, he returned to the United States in 1812 as Administrator of the Moravian Church Estates in North Carolina. In 1821 he went to Bethlehem as Senior Pastor and Administrator (later Proprietor) of the Moravian Church Estates in the northern United States (Pennell 1935; Stuckey 1979).

Schweinitz was an enthusiastic and productive botanist. After his return to the United States he amassed a large herbarium (now at PH) through his own botanizing and through exchanges and gifts from many sources (Stuckey 1979). His publications were diverse; some of his most significant papers dealt with fungi, but also among his major works were monographs on *Viola* (Schweinitz 1822) and *Carex* (Schweinitz 1824; Schweinitz & Torrey 1825). Schweinitz's monograph and specimens that he sent to Hooker were particularly important for Hooker's treatment of *Viola* in the *Flora Boreali- Americana*.

According to Pennell (in Barnhart 1935), "a friendly rivalry in Labrador plants" developed between Schweinitz and John Eatton LeConte, an engineer in the United States Army and amateur naturalist, whose Labrador specimens were also collected by Kohlmeister. LeConte (on whom see Stafleu & Cowan 1979 and references cited therein) corresponded with Schweinitz and other leading American botanists and likewise published on *Viola*, among other botanical and entomological subjects. LeConte's herbarium is also now at PH.

The "interesting collection from Labrador," noted by Silliman (1833; see also Stuckey 1971) when the herbarium of Zacchaeus Collins of Philadelphia was advertised for sale, also evidently comprised specimens collected by Kohlmeister. (On Collins see Stafleu & Cowan 1976.) Torrey & Gray (1838-1843) noted having seen specimens collected by Kohlmeister, e.g. *Solidago thyrsoidea* E. Meyer (= *S. macrophylla* Pursh), in the herbarium of Collins as well as in that of Schweinitz. Collins's herbarium was acquired by Constantine Samuel Rafinesque-Schmaltz, and Rafinesque's subsequently by Elias Magliore Durand (Pennell 1945). Durand's herbarium, including those specimens that he retained from Rafinesque's herbarium, is now at P (Chase 1936; Pennell 1945). Durand (in epist. to Torrey, 4 July 1841, quoted by Stuckey 1971) suspected that the "Labrador" specimens in Rafinesque's herbarium were actually "alpine European plants" because the labels were "in a German or French hand." Such handwriting would, however, be expected of a Moravian missionary such as Kohlmeister, or of possible intermediaries such as

Hüffel (below) or Schweinitz. Durand's suspicions therefore seen to have been unfounded. Stuckey (1971) concluded that, among the specimens from Rafinesque's herbarium that Durand had given to William Darlington (now at DWC), there were probably none that had belonged to Collins. Later, however, Overlease & Rofini (1987) found two specimens labeled "Labrador" and another labeled "N. Sp. Raf. Labrador and Belgica" in Rafinesque's handwriting among these specimens. The labels did not indicate from whom Rafinesque had received these specimens.

Another resident of the United States who acquired specimens collected by Kohlmeister was Daniel Steinhauer, a close friend of Schweinitz. Steinhauer was born in Wales in 1785, and followed his brother Rev. Henry Steinhauer, a prominent Moravian clergyman also interested in botany, to Philadelphia in 1818. After teaching for a time in Ohio, Steinhauer returned to Philadelphia in 1822, and subsequently taught at Moravian schools in Lancaster, Nazareth, and Bethlehem, Pennsylvania. Later he spent some time in Kentucky and Louisiana, then returned to Bethlehem, where he died in 1852 (Stuckey 1967). According to Stuckey (1967), Steinhauer presumably had an herbarium, but its fate is unknown. Evidence that Steinhauer acquired some of Kohlmeister's specimens appears in a manuscript by Durand (quoted by Chase 1936), in which Durand wrote that he had been "presented by the Rev. Steinhauer [sic[6]] with a collection of Labrador plants." The sequential position of this statement in Durand's account of his herbarium suggests that the presentation was made in the late 1820s or 1830s, when both Durand and Steinhauer lived in Pennsylvania. Such a date, along with the association with Pennsylvania, would indicate that the specimens had been collected by Kohlmeister.[7]

At least one specimen from Labrador, an *Antennaria*, and probably others, were in the herbarium of Thomas Nuttall and are now at BM (Fernald 1931). Nuttall (1841), who named *A. labradorica* before he left Philadelphia for England, stated that he had seen the plants so named in Schweinitz's herbarium, which was very probably the source of the specimen or specimens he took with him. His Labrador specimens may therefore be assumed to have been collected by Kohlmeister.

Christian Gottlieb Hüffel is sometimes assumed to have collected plants in Labrador, usually because of credit given to Hüffel for Labrador specimens in Schweinitz's (1822) *Viola* monograph and in his herbarium, where the names of collectors and donors are not distinguished (Stuckey 1979, p. 13). Hüffel was born at Kleinwelka 13 September 1762 and died at Herrnhut 7 June 1842 (Anonymous 1895). He was a scholar of many subjects, being especially interested in botany and mineralogy, and he traveled widely. During his service as President of the Provincial Board of the Moravian Church in America from 1818 to 1827, he was based at Bethlehem and botanized with Schweinitz in Pennsylvania (Pennell 1935). There is ample biographical material on Hüffel, who became a bishop in 1817, including references to his travels to the West Indies, but there is no indication that he ever went to Labrador. Conversely, in none of the letters from Labrador published in the *Periodical Accounts* do any of the missionaries mention a visit from this illustrious bishop. It seems, therefore, that Hüffel's role was that of an intermediary in conveying Kohlmeister's specimens to Schweinitz. In Schweinitz's (1822) monograph on *Viola*, which was his first publication on flowering plants, there is only one reference to a specimen from Labrador: "I received this interesting species *[Viola punctata* Schwein.; = *V. adunca* Sm. s. lat., or *V. labradorica* Schrank], among a considerable collection of Labrador plants, from my revered friend, R. Rev. C.G. Hueffel now of Bethlehem." This gift from Hüffel seems to have been Schweinitz's first acquisition of specimens from Labrador. Names of collectors are not given in Schweinitz's 1824 paper on *Carex*, nor do the names of collectors of Labrador plants appear in Schweinitz & Torrey's (1825) monograph on that genus. (*Carex bicolor* All.

was said to have been "collected by a Moravian missionary.") Schweinitz's contributions to the latter paper had, according to Torrey, been written several years prior to 1822, at which time Schweinitz may not have known who had actually collected the Labrador specimens sent to him by Hüffel.

Kohlmeister was probably also the collector of the Labrador specimens in the herbarium of Johann Jakob Roemer, formerly at LZ, since destroyed, that were attributed to Hüffel (Lanjouw & Stafleu 1957).

Lundberg, Herzberg, and their Contemporaries

The next major botanical collector to arrive in Labrador was Johannes Lundberg. Lundberg was born 3 May 1786 at New Herrnhut, on the island of St. Thomas, Danish West Indies (now U.S. Virgin Islands), to Moravian missionary parents. At the age of four he was sent to Europe for schooling. Like Kohlmeister, he learned the trade of a carpenter and, upon being selected for missionary service in Labrador, that of a cooper as well.

In 1811 Lundberg went to Nain, where he remained five years. In 1816 he was transferred to Okak, to which he traveled with Kohlmeister. He served at Okak until 1819, when he returned to Nain and married Henriette Gorke. At Nain the Lundbergs and the Kohlmeisters worked together until the Kohlmeisters' retirement in 1824.

The Lundbergs remained at Nain until 1827, when they went to Kleinwelka to place in school the eldest of their five children, of whom only two reached adulthood. They returned to Labrador the following year, going first to Hopedale. Lundberg particularly liked this site and his work there, but his stay was brief, as he was sent back to Nain in 1829. His new responsibilities involved traveling to Okak and Hebron from this base. In 1850, suffering from the lingering effects of a foot injury and other infirmities, he retired with his wife to Herrnhut, where he died 8 May 1856 (J. Lundberg 1858).

Although Lundberg may have assisted Kohlmeister in plant collecting prior to his furlough, his own name is associated with specimens dating from the latter part of his Labrador service, while he was based at Nain. In 1847 he sent 152 vascular-plant specimens to Europe. These, perhaps through one or more intermediaries, became the property of Wilhelm Hechel, a botanist at Brandenburg. Hechel later sent these specimens to Paul Friedrich August Ascherson of Berlin for identification. Among these specimens Ascherson found and reported (Ascherson 1860) 35 species new to the known flora of Labrador. The fate of Hechel's herbarium is unknown.

Other Lundberg specimens from his time at Nain were acquired by Joachim Steetz of Hamburg, who, as well as being a botanist himself, was an active trader in herbarium specimens (Stafleu & Cowan 1985). Specimens distributed by Steetz are in many herbaria; in the present study, *Potentilla palustris* (L.) Scop. var. *parviflora* (Raf.) Fern. & Long, collected by Lundberg near Nain, was seen at GH.

The set of Labrador specimens acquired by Samuel Litton, Professor of Botany to the Royal Dublin Society, must have been sent to Europe somewhat earlier than the specimens discussed above, because Litton died in June 1847. These specimens, now at DBN, are labeled only in Litton's handwriting, with no indication through whose agency he obtained them. Uniquely among the specimens

encountered in the present study, some of these–the only Labrador specimens from Litton's herbarium that bear a collector's name, although all are probably from the same source – are attributed to "Mrs. Lundberg." Sister Lundberg, née Henriette Auguste Gorke, was born 25 April 1794 to missionary parents in Lichtenau, Greenland (near present-day Sydprøven). From 1806 until her call to missionary service in 1819 she lived at various cities in Europe, employed most of that time as a housekeeper for her uncle. Marriage to Johannes Lundberg was a condition of her call. Her missionary career followed that of her husband until his death, after which she lived with her only surviving daughter in Herrnhut, where she died 10 April 1881 (H.A. Lundberg 1881).

At F, GH, M, MO, Z, and elsewhere there are specimens from Nain (or sometimes just "legit in Labradoria") collected ca. 1844-1847 that have been attributed to someone named Heldenberg, often designated "Rev." (see, e.g., Lanjouw & Stafleu 1957). Nowhere in the *Periodical Accounts* or elsewhere in the references at Moravian College and the Moravian Archives is there any indication that anyone named Heldenberg ever served at any Moravian mission in Labrador, nor is there any name that might thus be germanized. These specimens were distributed by the Herbarium Monacense (M). Data from one such specimen, *Gentiana nivalis* L. at GH, are as follows: "Legit in Labradoria rev. Heldenberg. Communicavit Dr. Barth anno 1845 (Herbar. Zuccarinii)." This appears to indicate that specimens arriving in Europe, probably at Herrnhut, were entrusted to the missionaries' friend Dr. Barth of Calw (below) for sale, or were bought by Barth for purposes of exchange or resale. The specimens now at GH were among those obtained from or via Barth by Joseph Gerard Zuccarini of Munich in 1845 and 1847. In 1849, after Zuccarini's death, the natural-history museum at Munich acquired his herbarium and evidently divided up some of the specimens that comprised several individual plants for exchange. Since it is known that Lundberg was at Nain from 1829 to 1850, and since Ascherson's (1860) paper states that Lundberg sent specimens to Europe in 1847, it is extremely probable that Lundberg was the actual collector of the specimens attributed to Heldenberg, and that Heldenberg, unless the name was merely an error, was an intermediary through whose hands the specimens the specimens passed before they reached Barth.

The identity of Dr. Barth who distributed these specimens, as well as his role, has been the subject of confusion in botanical literature. The Barth associated with the Münchener Naturalienkabinett ca. 1845 was Christian Gottlob Barth (1799-1862), Doctor der Theologie, on whom see Frohnmeyer (1953). Barth's greatest interest was in missions. His relationship with the Moravian missions in Labrador is indicated, for example, by a note by Brother A. Ribbach (1850) at Nain, who acknowledged receiving "through our dear friend Dr. Barth, a large globe, a gift of Dr. Schubert, of Munich." The *Periodical Accounts* also recorded that Brother Glitsch (below) had two polar bears, which had been shot in the blubber-yard at Hebron, stuffed for Dr. Barth. Barth is often incorrectly cited as the collector of Labrador specimens, but he was never in Labrador. The labels at GH clearly indicate that his role was that of a distributor of specimens, but it is probable that after repeated divisions of specimens for exchange purposes some herbaria received specimens with erroneously copied or ambiguous data. Labrador specimens attributed to Barth as collector, although probably collected by Lundberg, are at FI (ex herb. P.B. Webb) and elsewhere and were formerly also at B (Lanjouw & Stafleu 1954).

In 1830 Ernst Heinrich Friedrich Meyer, professor of botany and director of the botanical garden at Königsberg, Prussia (now Kaliningrad, U.S.S.R.), published the first flora of Labrador. This flora, called "remarkably complete" by Abbe (1936), listed 169 species. It was based on specimens collected by Johann Georg Herzberg,

a missionary who had been interested in natural history since early childhood. Herzberg was born in Göttingen, Prussia (now Germany), 11 February 1792 and, after completing his elementary schooling, was apprenticed to a carpenter. As a young man of anti-Napoleonic sentiments, he left Göttingen to avoid conscription into the French forces. He later joined a band of anti-French rebels in Berlin and suffered many perilous experiences in the conflicts that followed. After the war, upon his decision to become a missionary, he was sent to Gnadenfeld (now Paw owiczki, Poland) to study medicine and surgery.

In 1824 Herzberg arrived at Okak, where he remained until 1833, practicing both medicine and carpentry as well as carrying out his ministerial responsibilities. During this period he collected the specimens studied by Meyer. Then, on furlough in Europe, he married Anna Jensen, with whom he returned to Labrador in 1834. Until 1837 the Herzbergs were at Nain, where their two children were born. They were at Okak from 1837 to 1848, then at Hebron until their retirement in 1849. Although his retirement had been dictated by the deteriorating health of both himself and his wife, his health improved in Europe, and for a time he was able to serve in the ministry in Upper Lusatia. He died at Niesky 15 April 1864 (Herzberg 1866; *Periodical Accounts* passim).

Meyer's herbarium was ultimately incorporated into B, and few specimens from it are extant. Meyer, however, may have exchanged portions of some of Herzberg's specimens, and these may now be present in some of the European herbaria known to house Meyer's duplicates. No definite evidence of any later botanical collecting by Herzberg has been encountered in this study. There are, however, specimens from Okak now at DBN, including *Papaver lapponicum* (Tolm.) Nordh. ssp. *occidentale* (Lundstr.) Knaben, that appear to have been acquired by Samuel Litton ca. 1841, judging from the dates of other specimens with which they are mounted. These were most likely collected by Herzberg. Otherwise, other missionaries were active in botany at missions where Herzberg served after 1830, and specimens from these posts are generally associated with their names. Nevertheless, in view of Herzberg's avowed interest in natural history, it seems not unlikely that he as well as Knauss (below) contributed some of the botanical specimens from Okak in the mid-1840s.

Christian Benedict Henn, another collector of botanical specimens during this period, was born in late 1788 or early 1789. His first post in Labrador was Okak, to which he went in 1819. He served at Nain from 1820 to 1824, and married Johanna Eleanora Zippel there in 1823. He was at Hopedale from 1824 to 1825; at Nain again from 1825 to 1836; and at Okak from 1836 to 1840. In 1840 the Henns returned to Europe, first to London and then to Kleinwelka, where their children were sent to school.

Sister Henn died during this furlough, and Brother Henn decided to retire from missionary work. However, in 1841, on what was expected to be a brief visit to the Moravian missions in Suriname, as escort of a group of women missionaries en route there from Europe, he decided to remain. He served in Suriname for about three years, until declining health compelled his retirement. He died in Amsterdam 8 October 1844 (*Periodical Accounts* passim).

The principal recipient of Henn's botanical specimens was Diederich Franz Leonhard von Schlechtendal, professor of botany at Halle, who based his 1835 flora of Labrador on Henn's collections. Schlechtendal's herbarium is now at HAL. Other specimens collected by Henn are now at BR, ex herb. Carl Friedrich Philipp von Martius, and were formerly at LZ, since destroyed (Lanjouw & Stafleu 1957).

Another contribution to the natural sciences by Henn was a paper on meteorological observations at Okak (Henn 1839).

Joachim Steetz, mentioned above in connection with Lundberg specimens, also acquired and distributed specimens from Hopedale collected by Ferdinand Kruth. Kruth was born in 1804. Upon arriving in Labrador in 1830, he was sent to the new mission at Hebron. He remained there until going on furlough in the autumn of 1840, after which he served at missions in Greenland. He returned to Labrador in 1847, and served at Hopedale until his death there 31 December 1863 (*Periodical Accounts* passim).

Fernald & Sornborger's (1899) attribution of a specimen of *Cerastium trigynum* Vill. from Hopedale to "Kunth" is evidently an error for "Kruth." The label of this specimen is essentially identical in data, format, and handwriting to that of a specimen of *C. arvense* L. collected by Kruth (both at GH ex herb. Steetz), but on the label of *C. trigynum* the name beginning with "K" is blotted and virtually illegible. There was a Brother Adam Kunath (1779-1836) serving in Labrador from 1815 to 1829, with a furlough in 1817-1818, but he retired to Europe a year before the Hebron mission was founded or the site received its name (*Periodical Accounts* and *United Brethren's Missionary Intelligencer* passim).

At this point it may be noted that Johann August Miertsching (1817-1877, on whom see Neatby 1967) collected numerous botanical specimens in 1850-1854, while seconded to the British Admiralty as an interpreter on an Arctic expedition in the search for Sir John Franklin (Miertsching 1967). While some presumably were lost, a significant quantity from Banks and Victoria islands are extant (Simmons 1913). No botanical specimens from Miertsching's earlier service in Labrador, mostly at Okak, are known. Following the Arctic expedition, despite his fluency in Inuktitut and his enthusiasm for Labrador, he was sent to South Africa, where he spent the remainder of his missionary career.

Increased Trade in Botanical Specimens

Because the missions were intended to be as self-supporting as possible through trade, whatever financial arrangements had been made with the early recipients of botanical specimens were doubtless significant (Abbe 1936). Shortly before the middle of the nineteenth century, however, the sale of herbarium specimens evidently became envisioned in a more important role, in part because of an increased demand, but also because two individuals who were themselves notable botanical collectors and authors had risen to prominent positions in the Moravian Church. Eduard Wenck (1788-1875) and, more often, Johann Christian Breutel (1811-1896), both of Herrnhut, assembled and sold sets of Labrador specimens that the missionaries had sent to Herrnhut for this purpose. Wenck and Breutel generally tried to divide collections into as many separate specimens as feasible, sometimes to the detriment not only of the specimens but also of the data associated with them. Usually, however, if the locality datum for a specimen has been retained, the probable collector can be determined from apparent replicates in other herbaria. Wenck and Breutel, although sometimes cited as the collectors of such specimens, did not themselves visit Labrador. (On Wenck and Breutel see Porsild 1935b; on Breutel see also references cited by Stafleu & Cowan 1976.)

Porsild (1935b) has published upon such a set of specimens, now at C, that had been purchased from Breutel for the "Naturalien Cabinett" of the princely House of Stolberg-Wernigerode. These specimens had been identified by Georg

Ernst Ludwig Hampe, apothecary at Blankenburg (Harz), bryologist, and friend of Breutel, probably ca. 1857, judging from the publications that Hampe consulted for their identification (Porsild 1935b, p. 86). Greenland specimens in the same portfolios bear collection dates from 1847 through 1856. Some of the Labrador specimens bear locality data, either Nain, Hopedale, or Hebron. The Nain specimens can be assumed to have been collected by Lundberg, since other Nain specimens distributed from Herrnhut about the same time bear his name as that of the collector. The Hopedale specimens were likely collected by Kruth. The Hebron specimens are annotated "leg. Wenck," unlike those from the other mission sites, indicating a separate history, discussed elsewhere in this paper.

Another individual who became involved in distributing specimens from the Labrador missions was Rudolf Friedrich Hohenacker, who was in business at Esslingen, Wurttemburg, from 1842 to 1858 selling sets of herbarium specimens collected by himself and others (Stafleu & Cowan 1979 and references cited therein). He also acted as an agent for Breutel in selling some of the latter's series of exsiccatae. This, of course, increased the number of intermediaries and led to further confusion of data, including the frequent citation of Hohenacker, who never went to Labrador, as the collector of Labrador specimens. Of interest in the present context are specimens, most or all from the vicinity of Hopedale, that Hohenacker sold as a series of exsiccatae in 1848. Kruth was most likely the collector of these. Sets are now at LE and UPS and doubtless also at several other herbaria where their identity as a set has not been maintained. Also pertinent to the present study are specimens from Hebron and Okak dated 1853. When these were sold it was not always indicated which of the specimens had come from which of these missions. Botanists who acquired such specimens, either from Breutel or from Hohenacker, included Jacques-Etienne Gay, Joachim Steetz, Philip Barker Webb, and doubtless several others. Moreover, some of the purchasers bought sufficient quantities for further exchanges of their own. Thus, although all or most of the original purchasers of specimens from Breutel and Hohenacker were European, a number of American botanists, including Asa Gray, subsequently acquired some of these specimens through exchanges.

The specimens of this period from Hebron, including those marked "leg. Wenck" and those attributed to Hohenacker, were apparently collected by Jonathan Mentzel, whose name does appear on some labels. Mentzel came to Labrador in 1819 and served first at Okak. In 1829 he, Brother John Christian Beck, and six young Inuit men went from Okak to the site chosen for the Hebron mission, to begin work on the buildings. After the initial phase of the construction, Mentzel went to England. His marriage appears to have taken place during this visit. He returned to Hebron with additional building materials in 1831, and served there until 1855. After a furlough he returned to Hebron in 1856, and remained there until his retirement in 1865. He died at Herrnhut 24 April 1873, aged 80 (*Periodical Accounts* passim).

Okak specimens from the same period, i.e. ca. 1845, were collected by Georg Friedrich Knauss. Knauss was born ca. 1873, came to Okak, his first Labrador post, in 1815, and remained there until 1838. In 1823 he married Maria Catharina Fischer. He served at Hopedale from 1838 to 1841, then returned to Okak. After Samuel Weiz (below) arrived at Okak in 1852, Knauss retired to Europe the same year. He died at Königsfeld in 1859 (*Periodical Accounts* passim).

One specimen collected by Knauss is *Gymnocarpium dryopteris* (L.) Newm. at GH, ex herb. J.-E. Gay. (Gay's herbarium was purchased by Joseph Dalton Hooker of Kew, who sent numerous duplicates from it to Asa Gray.) Handwritten data, apparently by P.B. Webb, include several literature citations and "Fratres Morav.

legerunt. Webb ded. 5 Febr. 1854" (i.e., Webb apparently gave the specimen to Gay on that date). There also appears, rubber-stamped in block capitals in blue ink, "KNAUS LEG." and "LABRADOR OKKAK," the rubber-stamped data presumably having been provided by Breutel or Hohenacker.

Numerous other specimens appear thus to have been acquired and distributed by Webb. Some, e.g. *Senecio pauciflorus* Pursh at GH, bear labels headed "Herb. Webbianum." These and many others bear, in the same handwriting, citations of works by E. Meyer, Schlechtendal, and Webb, and "Webb ded." or "Webb dedit" followed by a date in 1853 or early 1854 and generally "Fratres Morav. legerunt." Recipients included John Ball (who evidently sent some Labrador specimens to Asa Gray) and J.-E. Gay. Some are labeled "circa Hokkak vel circa Hebron" in the same handwriting, but many (seen at GH) bear the same "LABRADOR OKKAK" stamps as the *Gymnocarpium* specimen noted above, but in purple rather than blue ink and with no mention of Knauss. Webb's own herbarium is now at FI, not visited in the present study, and presumably contains many other such specimens. However, considering how much writing was copied onto the "Webb dedit" labels, it seems unlikely that any important data on the originals were omitted. (On Webb and his herbarium see Stafleu & Cowan 1988 and references cited therein.)

Still other specimens at DBH and GH (some of the latter ex herb. J. Ball) have the blue (presumably earlier) "LABRADOR OKKAK" stamp but lack "Webb dedit" and other material in that handwriting, indicating that these reached Ball's and other herbaria otherwise than via Webb.

One such specimen at DBH with the blue "LABRADOR OKKAK" stamp is labeled "Glitsch leg." in the same handwriting as its identification as *Dryas integrifolia* Vahl. Zacharias Glitsch was born 2 August 1792 at Landenhausen, Oberhesse, in the Grand Duchy of Hesse-Darmstadt (now Germany, NW of Fulda). After working on the family farm and as weaver of sacking, he joined the Moravian community at Neudietendorf in the Duchy of Gotha (now Germany, N of Armstadt) in 1809 and continued his work as a weaver. A serious injury in 1818 was the first of many physical problems to beset him. He was called to missionary service in Labrador in 1822 and was asigned to Hopedale, where he remained about a year. His next post was Nain, where he resided with Kohlmeister, from whom he studied Inuktitut. The lingering effects of an injury the previous year and other illnesses dictated a furlough in Europe in 1827, but he was sent to Okak the next year. There, in 1831, he married Juliana D. Etzel. There too he collected botanical specimens along with Herzberg, who was also at Okak at the time. Glitsch was an enthusiastic gardener, especially pleased with his flower bed at Okak, and was much involved with the musical components of the worship.

In 1833 Glitsch was placed in charge of trade at Hopedale, where he served for eleven years. By the time they left Hopedale the Glitsches had five children, plus one stillborn, but only three reached adulthood. In 1844 Glitsch was assigned to Hebron, which he considered a depressing place compared to Hopedale, but even there he was able to report that the gardens looked well. His health deteriorated in Hebron and he longed to retire, but his wife resisted until she too became ill in 1847. In Herrnhut, however, his condition worsened, apparently exacerbated by feelings of guilt over having concentrated too much on the secular work of the missions rather than on evangelism. On 23 October 1857 Glitsch, who had been especially enthusiastic about the gifts of tobacco sent to the missions, died at Herrnhut from an illness characterized by a "cough and oppression of the chest" (Glitsch 1859; *Periodical Accounts* passim). Botanical specimens collected by Glitsch are now at LY (Lanjouw & Stafleu 1957) and E, as well as at DBN.

It is sometimes assumed that G. Anspach, identified (Lanjouw & Stafleu 1954) as the collector of botanical specimens from Labrador and also from Tierra del Fuego ca. 1891 or earlier (MO, NY, the latter ex herb. I.C. Martindale), was a Moravian missionary, but Moravian records mention no one having this surname in connection with the missions. During the first 20 years of the nineteenth century Lewis A. Anspach, a Newfoundland clergyman, had recorded his observations of the island's birds and fisheries, but he was an Anglican.

Samuel Weiz and Times of Change

It is possible that some of the specimens bearing the purple (presumably later) "LABRADOR OKKAK" stamp represent the earliest botanical collecting by one of the most accomplished naturalists among the Moravian missionaries in Labrador, Samuel Weiz. In view of the extent of his contributions to biology, it is unfortunate that no biographical article on Weiz appears to exist. The following data have been gleaned from the *Periodical Accounts* passim, especially Weiz (1871) and Bourquin et al. (1886), and from Briffault (1949).

Samuel Weiz was born at Königsfeld, in the Grand Duchy of Baden (now Germany), in 1823 and first came to Labrador in 1850. He was at Nain until 1852, then at Okak until 1863. After returning briefly to Nain, he was assigned to Hopedale in the summer of 1863 to succeed the ailing Brother Kruth. After about two years there he returned to Nain, where he served until 1868. That year he made a reconnaissance voyage to Nachvak Bay and, in September, returned to Europe to represent the overseas missions at the General Synod of the Moravian Church in Herrnhut. This visit was extended until June 1869, because his health had been poor since his Nachvak Bay voyage. Upon returning to Labrador, he was assigned to Okak. In 1871 he founded the new mission, to be called Ramah, at Nullatartok (now Ramah) Bay. (This site, explored many years earlier by Kohlmeister, was selected over the slightly more northern Nachvak Bay because the Hudson's Bay Company had established a trading post at the latter site.) Weiz, accompanied by Brother Hlavatschek (below), made several trips from Okak to Ramah and back during the construction of the mission buildings. He evidently considered the establishment of Ramah to be the crowning achievement of his missionary career, and he served there until he suffered a severe attack of "gastric fever" in 1880 and returned to the less arduous post of Nain. He retired 13 August 1884 and died at Herrnhut 27 April 1888.

Major changes in the Labrador missions and in the botanical collecting associated with them began to occur while Weiz was in Labrador, and continued at an accelerating pace as the century approached its close. Whereas most of the earlier missionaries had come from central or eastern Europe, their successors after about 1890 were often from England or the United States. Improved transportation and communication reduced the isolation of the missions. Also reducing the isolation was the presence of the Hudson's Bay Company, previously excluded, in northern Labrador. The heyday of sales of botanical specimens for large private herbaria passed, but increasing numbers of scientific expeditions visited the missions, especially from the United States, also from Canada and Newfoundland. Most of the narratives of these expeditions acknowledge valuable assistance provided by the Moravians. With encouragement provided by visiting scientists and requests for specimens more often coming from the United States, the missionaries began to send many of their specimens to American herbaria, especially to the Gray Herbarium of Harvard University (GH).

The earliest scientific expedition of note in the present context took place in

1864. It was organized by William Bradford, a New York artist, and its leading scientist was Alpheus Spring Packard, Jr., an entomologist and general zoologist who later joined the faculty of Brown University. Four years earlier Packard had been on the Williams College expedition, which explored the coast of southern Labrador, then crossed the Labrador Sea to Greenland. The 1864 expedition sailed along the Labrador Coast as far north as Hopedale, where Packard met Weiz. Packard was primarily interested in Weiz's zoological observations, but was also impressed by his knowledge of the flora and by the quantity and diversity of the plant specimens he had collected, especially in the vicinity of Okak (Packard 1891). Packard (1866) published an annotated list of the vertebrates Weiz had observed at Okak, and (Packard 1888) cited an insect specimen that Weiz had collected at Hopedale. Packard's (1891) chronicle of the 1860 and 1864 expeditions included a list by the Canadian botanist John Macoun of all the plants reported from Labrador up to 1891, among which were many records from Hopedale and Okak based on a list that Weiz had given Packard.

The International Polar Explorations of 1882-1883 included a German expedition that visited Hopedale and Nain. Weiz gave K.R. Koch, an expedition biologist, a list of the vertebrates that he had observed in Labrador, giving the scientific, German, and Inuktitut names; this was published in the report of the expedition (Weiz 1891). Another of Weiz's accomplishments was a map of the Labrador Coast (reproduced and discussed in Anonymous 1888) that served as an important reference on coastal contours, island locations, and place names for over twenty years.

A Canadian government meteorological expedition to Hudson Bay in 1884 was accompanied by Robert Bell of the Geological and Natural History Survey of Canada. (On this expedition see Bell 1885.) Bell was primarily interested in geology, but he also collected numerous botanical and zoological specimens on this and other expeditions. Of the Labrador localities at which this expedition came ashore, Nain was the only one at which there was a Moravian mission. On this brief visit to Nain, Bell learned that "the Rev. Dr. S. Weiz ... had made a collection of the plants of the vicinity, which he had submitted to some of the leading botanists of Europe, who had attached the proper names to each specimen." Weiz allowed Bell to copy the list of plants he had collected, which, as reported by Bell (1885), included 176 taxa of vascular plants and three of mosses. Bell also recorded eleven kinds of vegetables seen in the missionaries' gardens at Nain and noted "a great variety of flowers" therein. Since Weiz was then about to retire, it is unlikely that Bell's visit had much direct effect on plant collecting in Labrador after his departure. However, another missionary (not named by Bell) did promise to collect Lepidoptera for Bell the following year.

Although Weiz has most often been mentioned in biological literature for his observations and specimens of animals, he was probably the most prolific collector of Labrador plants in his time. Most of his specimens were from the vicinity of Okak, which he found to have a milder climate and richer flora than most localities on that part of the Labrador Coast. As a result of the extensive purchasing, dividing, and exchanging of herbarium specimens that went on during the latter half of the nineteenth century, his specimens, although not always bearing his name, are now relatively numerous in BM, GH, K, and several major herbaria of continental Europe. The fate of his evidently sizable personal herbarium has not been determined in this study.

Cotton-grass specimens collected by Weiz at Okak are paratypes of the name *Eriophorum callitrix* f. *moravium* (Raymond) Boivin, Raymond's (1951) dedi-

cation having acknowledged contributions by Weiz and also by Kohlmeister, Herzberg, Henn, and other Moravian missionaries to the knowledge of the flora of Labrador and Greenland.

Another missionary of this period who presumably collected botanical specimens was Hermann Theodor Jannasch. Jannasch served at Hopedale from 1879 to 1881; at Nain from 1881 to 1893; at Okak from 1893 to 1895, after which he went on furlough; and at Makkovik from 1896 until 1903, when his wife's illness dictated the Jannasches' return to Europe. Thereafter he worked as a home missionary based at Stuttgart. He is credited with a major role in the founding of the mission at Makkovik, where he was the chief builder of the house and church and designer and builder of the mission boat (*Periodical Accounts* passim, especially Anonymous 1903). According to Ratz (1975; Ratz's information on Hermann T. Jannasch largely from Hans W. Jannasch, *Unter Hottentoten und Eskimos* [Lünenberg: Heiland Verlag 1950], not seen in the present study), Jannasch, while at Hopedale, "erected a `warmhouse' for growing vegetables; established an herbarium; prepared [specimens of] birds, insects, and butterflies; made astronomical observations, which were sent to Germany, with the aid of a telescope mounted on a homemade rotating support; painted landscapes; and took the first photographs in Labrador of the land and people" (translation). Jannasch's biological collecting, however, seems to have been strictly a private hobby. No botanical specimens attributed to him, nor any references to his herbarium or to any of his plant or animal specimens, have been found in this study. No anonymous specimens from Hopedale 1879-1881 are known, and in general there are no plant specimens from any Labrador mission corresponding to Jannasch's period of service there, except for those from Nain attributed to Weiz. It may be, however, that some of Jannasch's collections await rediscovery in Germany.

Later Missionaries and Expeditions

Like Bell's and Packard's expeditions, Jewell David Sornborger's visits to Labrador in 1892 and 1897 were both a manifestation of increasing interest in Labrador among North American scientists and an impetus to further study of the Labrador biota. Sornborger was a student at Harvard University in 1892, and had obtained an appointment as "Special Assistant" on an ethnological expedition sponsored by the World's Columbian Commission, the organization for the 1893 "world's fair" in Chicago. His 1897 trip had as its primary objective the collection of bones of the extinct Great Auk, although he collected many other plant and animal specimens as well. This trip was sponsored by Outram Bangs, philanthropist and curator of mammals and birds at Harvard's Museum of Comparative Zoology, where Sornborger was employed as an ornithologist. Upon visiting mission sites, Sornborger solicited the aid of the missionaries in acquiring biological specimens. The plant specimens that he collected himself and obtained from the missionaries are at GH (Pringle 1988).

Fernald & Sornborger (1899) made "special acknowledgment" of the "many valuable specimens sent to [Sornborger] by the Rev. Adolph Stecker of the Unitas Fratrum, who [had] collected plants at a season when Labrador [was] inaccessible," and also expressed gratitude to Stecker for "many other important services." Gottlieb Adolph Stecker was born at Eibau, Saxony, near Herrnhut 10 July 1859. His first mission service was at Hopedale from 1884 to 1886. On Easter Monday, 1886, he was transferred to Okak, but in less than four months he was sent to Nain to take charge of the store. Later that year the illness of a missionary at Zoar required his move to that post–his fourth in one year. After serving briefly at Zoar he returned to

Okak, where he remained until 1893, at which time he exchanged posts with Christian Schmitt (below) at Ramah. Except for a furlough in 1896, Stecker remained based at Ramah until 1900. In April-May 1899 Stecker made a voyage of exploration to Ungava Bay, but there is no indication that botanical specimens were obtained on this trip, the season doubtless being too early for flowering material. Stecker was married to Francisca Pietschmann, and they had three children.

In 1901 Stecker became Superintendent of the Moravian missions in Alaska, with his headquarters in Bethel. In 1910 he retired to Nazareth, Pennsylvania, because of his wife's failing health. After she died in 1912 he planned to remain in retirement in nearby Bethany, but after about a year he and his two daughters decided to return to the mission field and went to Quinhagak, on the west coast of Alaska north of the Aleutian Peninsula, where they served until 1917. Although Stecker's predecessors had despaired of gardening at the Alaska missions, he, after "Herculean efforts" in transporting silt to the site, soon had a garden of vegetables and flowers that was the "showplace" of Bethel (Gapp 1949). After his second retirement, Stecker lived with one of his daughters in Tacoma, Washington, where he died 18 April 1939 (Stecker 1886, 1900; Anonymous 1914, 1939; *Periodical Accounts* passim; Gapp 1949).

Stecker's botanical specimens cited by Fernald & Sornborger (1899; also Fernald and various other authors, *Rhodora* passim) were obtained mostly at Ramah in 1894 and 1897 and at Hebron in 1897. He also contributed a few from Makkovik dated 1896, probably collected when he was en route to Europe for his furlough. Later he sent additional specimens, obtained at Ramah in 1899, to GH and probably to other herbaria (indicated in Fernald 1918). He also collected botanical specimens during his service in Alaska, which he presented to GH upon his retirement (Hultén 1940).

A willow-herb was named *Epilobium steckerianum* by Fernald (1918), honouring "the assiduous collector, Rev. Adolph Stecker, who has supplied us with material of so many interesting and often novel plants from northern Labrador." The type was a specimen collected by Stecker at Ramah. Now, however, the plants so named are generally included in *E. saximontanum Hausskn.*

Christian Schmitt (a.k.a. Smith) was born in 1868, according to the *National Union Catalog*, and went to Labrador in 1891. He served first at Ramah, then went to Okak in 1893, where he married Annie R. Bass. He was transferred to Nain in 1897, went on furlough in 1900, and returned to Nain in 1901. In 1904 Schmitt, described as "a master of conversational Eskimo" (Hutton 1936), and Superintendent Albert Martin (below) founded *Aglait illunainorntut*, "the newspaper for everybody" (actually an annual). In 1906 Schmitt became Trade Inspector for all the Moravian missions in Labrador, and in this capacity he traveled to other missions, including Ramah in 1906 and Killinek in 1907, when he was forced to remain there for the winter because the ship that was to have returned him to Nain was wrecked en route north. He was again on furlough in 1910-1911. In 1912 he was advised by physicians that he could not survive another winter in Labrador and also that his young daughter should go to Europe for knee surgery, so the Schmitts left for Europe that September (*Periodical Accounts* and *Moravian Missions* passim; Hutton 1936). He hoped that the [Moravian] Society for the Furtherance of the Gospel, based in London, would send him on a lecture tour of the United States in 1912-1913 (MacMillan 1912), but the periodicals examined in the present study do not indicate whether or not this tour took place. No information on Schmitt's life span, nor any further biographical data on him, could be found at Reeves Library, the Moravian Archives, or Dartmouth College.

Schmitt was especially interested in ornithology, as is indicated by the recognition accorded his "many interesting notes on arrival of birds and nesting dates" by Townsend & Allen (1907). His notes on birds relate mostly to Nain, but the only botanical specimens collected by him to which reference has been seen in this study were from Ekortiarsuk Fjord, between Ramah and Killinek, dated 20-30 August 1896 (Fernald & Sornborger 1899). These were sent to Sornborger and are now at GH. Both MacMillan (1912) and Sir Wilfred Grenfell were impressed by Schmitt's many excellent photographs.

Fernald & Sornborger (1899) also cited specimens from Hebron sent to Sornborger by "Mrs. Hlawatschek." As with most of the women, the *Periodical Accounts* provide little direct information on Mrs. Hlawatschek, but the dates and location of her service in Labrador can be determined by following the career of her husband.

Gustav Adolph Hlawatschek came to Labrador in 1871 as a single brother. After assisting Samuel Weiz with the construction of the new mission buildings at Ramah, he returned to Hebron to assume charge of the trading post, which position he held throughout the rest of his Labrador service. In 1872 Brother A. Günther came to Hebron. A year later Sister M.A. (these initials probably for Marie Anna, although this is not spelled out) Schmiedecke came to Hebron as Günther's bride, and in 1874 Sister L.A. Degenhardt arrived as Hlavatschek's bride. Both Brother Günther and the first Sister Hlawatschek died within a year of the latter's wedding. About a year later, in 1876, the two widowed missionaries at Hebron, Brother Hlawatschek and Sister Günther (née Schmiedecke), were married.

In 1898 Brother Hlawatschek's deteriorating health dictated the Hlawatschek's retirement to Herrnhut, where he died 13 November 1913, aged 73. Publication of such data in the *Periodical Accounts* had already begun to diminish by 1913 and soon thereafter almost entirely disappeared, providing no further information on Sister Hlawatschek.

Walter Whatley Perrett apparently was the first native of the United Kingdom among the Moravian botanical collectors in Labrador, although a few other Moravian missionaries from England had preceded him to that coast. Perrett was born at Malmesbury, Wiltshire, 13 September 1869, to Moravian parents. His father was a gardener. At 14 Perrett was apprenticed to a tailor. Five years later he decided to become a missionary and studied theology and pastoral work at Kimbolton and Fairfield. Upon his ordination as deacon in 1892 he went to his first Labrador post, at Okak, where Adolph Stecker was then serving. A year later he and the Steckers were sent to Ramah. In 1895 he returned to England and married Helen "Nellie" Ridgeway, whom he had met during his theological studies, and immediately thereafter went back to Okak. The Perretts had three daughters.

In 1896 Perrett went to Hopedale for two years, after which he was placed in charge of the new mission at Makkovik. He returned to Hopedale as head of that mission in 1902, and remained there until his furlough in 1904. During this assignment to Hopedale, the Inuit built a church at Uviluktk (now Mussel) Island ca. 16 km ESE of Hopedale. Perrett's travels included visits to this church and to a number of Inuit summer fishing camps in the Hopedale area.

Following his furlough Perrett returned briefly to Hopedale and then was assigned to Killinek in 1905. After about a year there he was sent to Nain. With his increased seniority came increased stability of assignments, and he remained at Nain until his furlough of 1913-1915. After this furlough he again went to Hopedale,

Commander (subsequently Rear Admiral) Donald Baxter MacMillan (on viewer's left) and Walter W. Perrett on board MacMillan's ship at Hopedale, 15 August 1934.

where he remained until his retirement. "Perrett and Hopedale," according to Hutton (1936), "are inseparably associated in the minds of all who follow the work of the Moravian missions in Labrador." In 1917 he was made Superintendent of all the Labrador missions, but he stayed at Hopedale rather than moving to the usual headquarters at Nain. He visited England in 1919 to discuss the future of the Labrador missions following the influenza epidemic. In 1929, after another visit to England, he returned to Hopedale but turned over the responsibilities of Superintendent to Paul Hettasch (below).

Perrett has been described as "a born linguist." His achievements included new translations of several books of the Bible into Inuktitut, several works of light literature, and, in collaboration with Paul Hettasch, an Inuktitut ABC book and reader. It has also been noted that "his garden thrived amazingly ... Cabbages, turnips, lettuce were coaxed to grow in the unlikely soil, and the crops would have done credit to many a smallholder in the warm gardens of England." When his robust health eventually declined, in 1942, he returned to Malmesbury, where he served on the Town Council for the remaining eight years of his life and continued to have remarkably productive gardens. He died at Malmesbury 15 March 1950 (Hutton 1936; Briffault 1949; Anonymous 1950).

Perrett's contributions to natural history were mainly zoological. As early as 1906, when the German naturalist Bernhard Adolf Hantzsch (on whom, in this context, see LaTrobe 1913 and Anderson in ed. notes to 1928-1929 translation of Hantzsch 1908) visited Killinek, he observed that Perrett had "for years been actively interested in the avifauna of Labrador, and [had] collected eggs and skins" (Hantzsch 1908). Hantzsch's (1908) classic paper on the birds of Labrador includes many observations credited to Perrett. The noted American ornithologist Arthur Cleveland Bent likewise benefited from Perrett's knowledge of the birds of Labrador and found much of interest among Perrett's collections of birds' eggs when he visited Labrador in 1912 (MacMillan 1912). Perrett continued to study the Labrador birds for many more years, as noted by Todd (1963, esp. p. 32). In 1936 his biographer, Hutton, said that Perrett at that time probably knew "more about [the birds of Labrador], and about all the winged life of the coast, than any other living man." Perrett's contributions to the knowledge of Labrador insects, especially Lepidoptera, have been recognized by Morris (1980). His collections of moths date from 1918 to 1936, when he was at Hopedale; the principal repositories are the Biosystematics Research Institute (Agriculture Canada) and the Royal Ontario Museum. Sornborger (1900) based a new subspecies of flying squirrel, now called *Glaucomys sabrinus makkovikensis* (Sornborger), on specimens from Makkovik sent to him by Perrett. Evidence that Perrett also collected plant specimens appears in Fernald's (1926-1927) citation of a specimen of *Parnassia palustris* L. var. *neogaea* Fern. (as *P. multiseta* (Ledeb.) Fern., epithet misapplied) at GH, collected by Perrett at Hopedale in 1920.

Perrett also contributed through his "genius for friendship." During the latter years of his ministry, increasing numbers of visiting scientists benefited from his hospitality and his knowledge of the Labrador and its people, and some, like Sornborger, became "firm and lasting friends of this genial missionary."

In 1936 Ernst Cleveland Abbe, who had been the botanist on the Grenfell-Forbes Northern Labrador Expedition in 1931, reported that "the botanical tradition established and carried on by such Moravian brethren as Hertzberg [sic], Weiz, and Stecker is today ably maintained by the Rev. P. Hettasch who is an excellent collector." Earlier, Hantzsch (1909, translation by Anderson) had referred to "the missionary, Mr. Hettasch in Hoffenthal, who has been busy with the flora of Labrador for years." Richard Paul Hettasch was born 9 August 1873 in Clarkson, South Africa, to Moravian missionary parents. He attended the Moravian schools in Kleinwelka and Niesky and clerked for a tobacco company in Neuwied, Prussia (now Germany), before deciding to become a missionary in 1894. He was sent by his Church to the missionary training school at Neuwied and then to Livingstone College in England for a year's training in medicine and surgery. In 1898, after completing this course, he married Ellen Marie Koch, from Neuwied, and was sent to Hopedale that same year. There he provided the only medical services at any of the Moravian missions in Labrador until the arrival of Samuel King Hutton, M.B., C.M., at the new hospital at Okak in 1902. Hettasch remained at the Hopedale medical station until his furlough in 1908. In 1909 he went to Okak to replace the ailing Hutton. He returned to Hopedale when another physician was found for the Okak hospital in 1912, then moved to Nain in 1914. After a furlough in 1921-1922 he returned to Nain, where he spent the remainder of his service in Labrador, which included rebuilding the church after the fire of 1921, except for a period in Makkovik in 1932-1934. Under his supervision the mission vegetable garden at Nain was very large and successful, with long rows of frameworks on which protective coverings could be placed, as illustrated (as of 1925) in *Them Days* 5(3):12. 1980.

From 1928 to 1942 Hettasch was Superintendent of all the Labrador missions. Officially he retired from full service in 1942, but he remained active at

Ellen and Paul Hettasch at Nain, 13 August 1934.

Nain until his retirement five years later. The Hettasches stayed briefly in Brunswick, Maine, at the home of the explorer Donald Baxter MacMillan, whom they had met on several occasions in Labrador and who had donated funds for a Moravian boarding school at Nain; then they went to Nazareth, Pennsylvania, where Paul Hettasch died of cancer 18 February 1949. Of the Hettasches six children, two were among the best known and most respected of the twentieth-century missionaries in Labrador, Siegfried Paul Hettasch as a physician and administrator and Katherine as a teacher (Anonymous 1949; Hamilton 1949; Peacock 1949; Russell 1984; *Periodical Accounts* and *Them Days* passim).

E.P. Wheeler, 2nd (1930), a geographer from Cornell University, acknowledged the "cordial and understanding hospitality" and great help in dealing with the Inuit that he had received from the Hettasches, noting of Paul Hettasch that "besides being able to speak their language fluently, he could give valuable advice resulting from a keen, unprejudiced judgment and a deep knowledge of and sympathy with them." Abbe (1936) wrote that "it was a real privilege to have had the opportunity of seeing his rock-garden of native plants at Nain, and to have seen his herbarium representative of the native flora."

Some of Hettasch's botanical collecting was done at the request of Sir William MacGregor, M.D., who was Governor of Newfoundland and Labrador from 1904 to 1909. MacGregor himself had collected botanical and ethnological specimens in Fiji, Papua, Nigeria, and elsewhere prior to the expedition to Labrador in 1905 that he conducted as Governor, "with the objective of surveying its coast and investigating its resources" (Sprent 1927; Desmond 1977). Hettasch sent 120 plant specimens, mostly from Hopedale, to MacGregor, who presented one set to the Royal Botanic Gardens, Kew (K), and another to the Newfoundland Museum at St. John's (Anonymous 1907). The fate of the latter set is unknown. Boivin (1980) found no herbarium specimens at the Museum at the time of his study. He located some attributed to MacGregor in the herbarium of the Memorial University of Newfoundland (NFLD), but too few to constitute a set duplicating that at Kew. Boivin did not mention Hettasch's name in this context. The fate of Hettasch's herbarium at Nain also remains undetermined. Russell (1984) stated that Hettasch's herbarium was given to Kew, but this may refer to the specimens presented by MacGregor. References to Hettasch specimens at Kew mention these only. Some of Hettasch's later specimens are extant in other herbaria, however, and indicate that his botanizing continued virtually until his retirement, e.g., *Cassiope hypnoides* (L.) D. Don at QFA, collected at Nain in 1945.

Hettasch also contributed specimens of Lepidoptera to the University of Chicago and to a university in Saxony, and recorded weather data for many years for the Ontario Weather Bureau and the Deutsches Seewarte (Russell 1984).

Another missionary recruited by MacGregor to the cause of botanical collecting, although with more modest results, was Albert Martin, from whom he received several specimens of mosses and lichens from Nain. These were presented to Kew along with the specimens from Hettasch (Anonymous 1907).

Carl Albert Martin was born 17 October 1861 at Gnadenfeld, Silesia (now Pi awa Górna, Poland). He was educated at the Pädagogium in Niesky, where he became inspired by the director's tales of the missions in Greenland, and at the theological seminary in Gnadenfrei, from which he graduated in 1884. He then taught at the school for missionaries' children at Kleinwelka, meanwhile taking lessons in Inuktitut from a retired missionary, until he was selected for missionary service and sent to Labrador in 1887. A few months later he returned to Kleinwelka

for his ordination as a deacon and his marriage to (Julia Anna) Lydia Oelmann on 3 June 1888. Later that year he went to Nain, where he served for 29 years, except for two occasions when he returned to Europe to represent the missions at the General Synod. After a year at Nain, he was named Superintendent of the Labrador missions. He also served as German consul at Nain.

In 1899, on the second of his visits to Europe, Martin was ordained a bishop at Herrnhut. He relinquished his position as Superintendent in 1917, so that he could devote more time to a new translation of the Pentateuch into Inuktitut, and became head of the mission at Hebron, where he served heroically during the ensuing epidemic of influenza (Anonymous 1919; Hutton 1936). He remained at Hebron until 1923, when, after a few weeks at Nain, he retired to Kleinwelka. He died 22 October 1934 at Herrnhut (Martin 1903; Anonymous 1935).

The last of the missionaries of whom biographical sketches are presented here retired from service in Labrador in 1947, and this is an appropriate date with which to close this chronicle. By this time only three of the missions north of Makkovik were still in existence, and for one of these the end was near. Two years later Labrador became part of Canada, and thereafter it was visited by increasing numbers of Canadian government scientists. To the present day, however, knowledge of the flora of northern Labrador remains based to a large extent on specimens collected by Moravian missionaries.

Acknowledgments

I am grateful above all for access to published and unpublished resources at the Reeves Library of Moravian College and the Moravian Archives, Northern Province, Moravian Church in America, and for the enthusiastic assistance always provided by Messrs. J. Thomas Minor and Vernon H. Nelson when I visited Bethlehem.

In addition to the Royal Botanical Gardens Library, where many of the botanical publications cited below were seen, information for this study was obtained at the libraries of Bethlehem, Pennsylvania, Bowdoin College (Peary-MacMillan Museum and Hawthorne-Longfellow Library), Dartmouth College, McMaster University, the Missouri Botanical Garden, and the University of Toronto. I am grateful for the cooperation received from the staff at all of these libraries, in particular to those at Bowdoin, Dartmouth, and the Missouri Botanical Garden who made unpublished manuscripts and rare books available.

I am also grateful for the opportunity to examine historic specimens in the Gray Herbarium of Harvard University, and to Dr. E. Charles Nelson of the National Botanic Garden, Glasnevin, Ireland, for information on and photocopies of specimens at that Garden's herbarium.

A preliminary version of the manuscript was graciously reviewed by Mr. D.E. Allen of Winchester, Hants, U.K. The present paper contains a number of data that he provided and has benefitted greatly from the incorporation of many improvements suggested by him.

Literature Cited[8]

Abbe, E.C. 1936. Botanical results of the Grenfell-Forbes northern Labrador expedition, 1931. Rhodora 38:102-161, pl. 408-411.

Allen, D.E. 1984. Philip Hurlock: Moravian middle-man. Soc. Hist. Nat. Hist. Newslett. 22:10-11.
Anonymous. 1835. The Moravians in Labrador, ed. 2. Edinburgh: William Oliphant and Son. 324 pp.
Anonymous. 1888. Notes on the geography of Labrador. Science, ser. I, 11:77-79.
Anonymous. 1895. Memoir of Christian Gottlieb Hüffel, Episcopus Fratrum. Trans. Moravian Hist. Soc. 4:33-38.
Anonymous. 1903. Labrador. Extracts from the station diaries: Makkovik. Periodical Accounts, ser. II, 5:363-368.
Anonymous. 1907. Plants from Labrador. Bull. Misc. Inform. (Kew) 1907:76-88.
Anonymous. 1914. Brother Adolph Stecker's return to the field. Periodical Accounts, ser. II, 9:5-8.
Anonymous. 1919. The influenza epidemic in Labrador. A story of horror and death. Moravian Missions 17:58-60. (Reprinted from The Evening Telegram [St. John's], June 21, 1919.)
Anonymous. 1935. Carl Albert Martin. Moravian Missions 33:12.
Anonymous. 1939. Rev. G.A. Stecker. Moravian Missions 37:42.
Anonymous. 1949. Rev. Hettasch, ex-missionary dies at 76. The Bethlehem Globe-Times, vol. LXXXI–no. 25,411, February 19, 1949, p. 15.
Anonymous. 1950. Walter Perrett, missionary to the Eskimos. Moravian Missions 48:15-16.
Anonymous. 1975. Spanish influenza. Them Days 1(1):25-26.
Ascherson, P.[F.A.]. 1860. Nachtrag zur Flora von Labrador. Flora (Regensburg) 43(= ser. II, 18):369-370.
Barnhart, J.H. 1935. The botanical correspondents of Schweinitz. Bartonia 16:19-36. (Includes ed. note by F.W. Pennell.)
Bell, R. 1885. Observations on the geology, mineralogy, zoology, and botany of the Labrador Coast, Hudson's Strait and Bay. Geol. Nat. Hist. Surv. Mus. Canada Rep. Progr. 1882-83-84(DD). 62 pp. + 1 pl.
Boivin, B. 1980. Survey of Canadian herbaria. Provancheria 10. [vi] + 187 pp.
Bourquin, T., A. Wirth, L. Kaestner, & H. Jannasch. 1886. Extracts from the diaries of congregations in Labrador from July, 1884, to July, 1885: Nain. Periodical Accounts, ser. I, 33:473-475.
Briffault, H. 1949. Moravian missions in Labrador. Unpublished ms. for Encyclopedia Arctica, Special Collections, Dartmouth College Library, Hanover, NH. 9 pp. (Filed with several pp. of notes.)
Chase, A. 1936. The Durand herbarium. Bartonia 17:40-45.

Davey, J.W. 1905. The Fall of Torngat, or, the Moravian Mission on the Coast of Labrador. London, U.K.: S.W. Partridge. 288 pp. + 16 pl. + 1 map.
Desmond, R. 1977. Dictionary of British and Irish Botanists and Horticulturists Including Plant Collectors and Botanical Artists. London, U.K.: Taylor & Francis. xxvi + 747 pp.
Fernald, M.L. 1918. Some American epilobiums of the section Lysimachion. Rhodora 20:29-39.
Fernald, M.L. 1926-1927 ["1926"]. Two summers of botanizing in Newfoundland. Rhodora 28:49-63, 74-87, 89-111, 115-129, 145-155, 161-178, 181-204, 210-225, 234-241, pl. 153-155.
Fernald, M.L. 1929. Some relationships of the floras of the Northern Hemisphere. In: Duggar, B.M., ed. Proceedings of the International Congress of Plant Sciences, Ithaca, New York, August 16-23, 1926. Menesha, WI: George Banta Publishing Company. 2:1487-1507.
Fernald, M.L. 1931. Three antennarias from Greenland. Rhodora 33:222-224.
Fernald, M.L., & J.D. Sornborger. 1899. Some recent additions to the Labrador flora. Ottawa Naturalist 13:89-107.

Frohmeyer, K. 1953. Barth, Christian Gottlob. In: Neue Deutsche Biographie. Berlin: Duncker & Humblot. 1:601.
Gapp, S.H. (H. Briffault, ed.). 1949. Moravian missionaries in Alaska: biographies. Unpublished notes for Encyclopedia Arctica, Special Collections, Dartmouth College Library, Hanover, NH. 16 pp.
Glitsch, Z. 1859. Memoir of Br. Zacharias Glitsch, missionary in Labrador, who departed this life, October 23rd, 1857. Periodical Accounts, ser. I, 23:125-129. (Includes paragraph by ed.)
Hamilton, J.T. 1949. Bishop Hamilton's appreciation. Moravian Missions 47:28-29.
Hantzsch, B.A. 1908. Beitrag zur Kenntnis der Vogelwelt des nordoestlichen Labradors. J. Ornith. (Leipzig) 56:175-202, 307-392. Seen in translation by Anderson, M.B.A., & R.M. Anderson. 1928-1929. Contribution to the knowledge of the avifauna of north-eastern Labrador. Canad. Field-Nat. 42:2-9, 33-40, 87-94, 123-125, 146-148, 172-177, 201-207, 221-227; 43:11-18, 31-34, 52-59. (Includes extensive annotation by R.M. Anderson.)
Hantzsch, B.A. 1909. Beiträge zur Kenntnis des nordöstlichen Labradors. Mitt. Vereins Erdk. Dresden 8:158-229; 9:245-320. Seen in abridged translation by Anderson, M.B.A. 1931-1932. Contributions to the knowledge of extreme north-eastern Labrador. Canad. Field-Nat. 45:49-55, 85-90, 115-118, 143-146, 169-174, 194-198, 222-224; 46:7-12, 34-36, 56-63, 84-89, 112-116, 143-145, 153-162.
Haven, J. 1798. Account of the life of Brother Jens Haven, the first missionary sent by the Brethren to the Esquimaux Indians on the Coast of Labrador. Periodical Accounts, ser. I, 2:99-115. (Includes extensive ed. additions and annotations.)
Henn, C.B. 1839. Wetterungsbeobachtungen angestellt in Okak auf der Küste Labrador. Bull. Sci. Acad. Imp. Sci. Saint-Pétersbourg, ser. I, 5:142-153.
Herzberg, J.G. 1866. Memoir of Brother John George Herzberg, who departed this life at Nisky, Prussia, April 15th, 1864. Periodical Accounts, ser. I, 26:41-47.
Hiller, J.K. 1971. The Moravians in Labrador, 1771-1805. Polar Rec. 15:839-854 + 2 pl.
Hiller, J.K. 1979. Haven, Jens. In: Dictionary of Canadian Biography. Volume IV: 1771 to 1780. Toronto: University of Toronto Press. pp. 333-334.
Holmes, J.[B.] 1827. Historical Sketches of the Missions of the United Brethren for Propagating the Gospel among the Heathen, from their Commencement to the Year 1817, ed. 2. London, U.K.: the author. viii + 472 pp.
Holmgren, P.K., N.H. Holmgren, & L.C. Barnett. 1990. Index Herbariorum. Part I: the herbaria of the world, ed. 8. Regnum Veg. 120. x + 693 pp.
Hooker, W.J. 1829-1840 ["1833-1840"]. Flora Boreali-Americana; or, the Botany of the Northern Parts of British America ... London, U.K.: Henry G. Bohn. Republished 1960. Weinheim: H.R. Engelmann (J. Cramer). 2 vols. + atlas.
Hultén, E. 1940. History of botanical exploration in Alaska and Yukon territories from the time of their discovery to 1940. Bot. Not. 1940:289-346 + 1 map.
Hutton, S.K. 1936. A Shepherd in the Snow: the Life Story of Walter Perrett of Labrador. London, U.K.: Hodder and Stoughton. 285 pp.
Jenness, D. 1965. Eskimo administration: III. Labrador. Arctic Inst. N. Amer. Techn. Pap. 16. 94 pp.
Kmoch, [J.]G. 1858. Memoir of Br. George Kmoch, missionary in Labrador, who departed this life at Ockbrook, December 21st, 1857, in the eighty-eighth year of his age. Periodical Accounts, ser. I, 22:379-384, 433-440.
Kohlmeister, B.G. 1845. Memoir of Br. Benjamin Gottlieb Kohlmeister, for thirty-four years a missionary in Labrador, who departed this life at Neusaltz, Silesia, June 3rd, 1844, in the eighty-ninth year of his age. (Compiled from his own manuscript.) Periodical Accounts, ser. I, 17:201-209, 249-257. Republished 1846. The United Brethren's Missionary Intelligencer, and Religious Miscellany 9:19-29, 55-65.

Lanjouw, J., & F.A. Stafleu. 1954. Index Herbariorum. Part II(1): Collectors. First installment A-D. Regnum Veg. 2. pp. 1-174 [of Part II].
Lanjouw, J., & F.A. Stafleu. 1957. Index Herbariorum. Part II(2): Collectors. Second installment E-H. Regnum Veg. 9. pp. 175-295 [of Part II].
LaTrobe, B. 1913. The late Bernard Hantzsch, ornithologist and explorer in Labrador and Baffin's Land. Moravian Missions 11:3-5.
Lewis, O. 1954. George Davidson: Pioneer West Coast Scientist. Berkeley and Los Angeles: University of California Press. ix + 146 pp. + 16 pl. + 3 maps.
Lundberg, H.A. 1881. Memoir of Sr. Henriette Auguste Lundberg, who departed this life of April 10th, 1881. Messenger (United Brethren) 21:376-385.
Lundberg, J.[G.] 1858. Memoir of Br. John Lundberg, missionary in Labrador, who departed this life at Herrnhut, May 8th, 1956, in the seventy-first year of his age. Periodical Accounts, ser. I, 22:481-487.
Lysaght, A.M. 1971. Joseph Banks in Newfoundland and Labrador, 1766: his Diary, Manuscripts and Collections. London, U.K.: Faber and Faber; Berkeley and Los Angeles: University of California Press. 512 pp. + 111 pl.
MacMillan, D.B. 1912. Handwritten diary. Motor boat trip (21' power boat, *George Borup*) from Boston to Hebron, North Labrador. Unpublished ms., Hawthorne-Longfellow Library of Bowdoin College, Brunswick, ME, MacMillan Collection no. 10. pp. unnumbered.
Martin, C.A. 1903. Bishop Albert Martin. In: Typescript of "The Bishops' Book," Moravian Archives, Bethlehem, PA, entry no. 198. (Includes note by compilers.)
Mears, J.A. 1983. Indices to the Microfiche of the Types and Special Collections (Flowering Plants and Ferns) of the Herbarium of the Academy of Natural Sciences of Philadelphia. Westport, CT, and London, U.K.: Meckler Publishing. [iii] + 274 pp.
Meyer, E.H.F. 1830. De Plantis Labradoricis Libri Tres. Leipzig: Leopold Voss. xxii + 218 pp.
Miertsching, J.A. 1967. Frozen Ships: the Arctic Diary of Johann Miertsching 1850-1854. Toronto: Macmillan of Canada. xviii + 254 pp. + 4 pl. (Translated and with introduction by L.H. Neatby.)
Miller, H.S. 1970. The herbarium of Aylmer Bourke Lambert: notes on its acquisition, dispersal, and present whereabouts. Taxon 19:489-553.
Morhardt, A.L., H. Schmidt, I.S. Meisner, & J. Hastings. 1802. Letters received from the mission settlements on the Coast of Labrador: from Okak, dated September 3d., 1802. Periodical Accounts, ser. I, 3:111-117.
Morris, R.F. 1980. Butterflies and Moths of Newfoundland and Labrador: the Macrolepidoptera. Res. Branch Agric. Canada Publ. 1691. 407 pp.
Neatby, L.H. 1967. Introduction. *In*: Miertsching (1967), q.v., pp. vii-xviii.
Nuttall, T. 1841. Descriptions of new species and genera of plants in the natural order of the Compositae, collected in a tour across the continent to the Pacific, a residence in Oregon, and a visit to the Sandwich Islands and Upper California, during the years 1834 and 1835. Trans. Amer. Philos. Soc., ser. II, 7:283-453.
Overlease, W.R., & D. Rofini. 1987. Rafinesque's specimens in the Darlington Herbarium of West Chester University. Bartonia 53:24-33.
Packard, A.S., Jr. 1866. List of the vertebrates observed at Okak, Labrador, by Rev. Samuel Weiz, with annotations by A.S. Packard, Jr., M.D. Proc. Boston Soc. Nat. Hist. 10:264-277.
Packard, A.S., Jr. 1888. List of the spiders, myriopods and insects of Labrador. Canad. Entomol. 20:141-149.
Packard, A.S. 1891. The Labrador Coast. A Journal of Two Summer Cruises to that Region. With Notes on its Early Discovery, on the Eskimo, on its Physical Geography, Geology and Natural History. New York: N.D.C. Hodges. 7 + 513 pp. + 5 pl. + 5 maps. (Includes plant list by J. Macoun.)

Peacock, F.[A.]W. 1949. Richard Paul Hettasch: missionary to the Eskimos. Moravian Missions 47:27-28.
Peacock, F.[A.]W. 1976. The Moravian Church in Labrador. Them Days 1(3):3-17.
Pennell, F.W. 1935. The botanist Schweinitz and his herbarium. Bartonia 16:1-8.
Pennell, F.W. 1945. How Durand acquired Rafinesque's herbarium. Bartonia 23:43-46.
Porsild, M.P. 1935a. Stray contributions to the flora of Greenland. X. A botanical excursion to the fiords of the Godthaab district. Meddel. Grønland 93(3):52-74.
Porsild, M.P. 1935b. Stray contributions to the flora of Greenland. XII. On some herbaria from Greenland and Labrador collected by the Moravian brethren. Meddel. Grønland 93(3):84-94.
Pringle, J.S. 1988. Jewell David Sornborger (1869-1929): an early biological collector in Newfoundland and Labrador. Canad. Hort. Hist. 1:210-221.
Pursh, F. 1813 ["1814"]. Flora Americae Septentrionalis; or, a Systematic Arrangement and Description of the Plants of North America. London, U.K.: White, Cochrane, and Co. Republished 1979 with introduction by J. Ewan. Vaduz: J. Cramer. 2 vols.
Ratz, A.E. 1975. Frühe Kulturarbeit deutscher Herrnhuter in Labrador. German-Canad. Yearb. 2:50-69.
Raymond, M. 1951. Une nouvelle variété de l'*Eriophorum callitrix* Cham. Bull. Soc. Bot. France 98:6-8.
Ribbach, A. 1850. Labrador. Extracts of private correspondence. From Nain. Moravian Church Miscellany 1:306.
Roemer, J,, et al. 1871. Retrospect of the history of the mission of the Brethren's Church in Labrador for the past hundred years. Periodical Accounts, ser. I, 28:1-19, 53-72. Also published anonymously 1871 as: History of the Mission of the Church of the United Brethren in Labrador for the Past Hundred Years. London, U.K.: W. Mallalieu & Co. 52 pp. + 1 map.
Russell, L.E. 1984. Hettasch, Rev. Paul Richard (1873-1949). In: Encyclopedia of Newfoundland and Labrador. St. John's: Newfoundland Book Publishers (1967). 2:928-929.
Schlechtendal, D.F.L. von. 1835 ["1836"]. Ueber die Flor von Labrador. Linnaea 10:76-114.
Schrank, F. von P. von. 1818. Aufzählung einiger Pflanzen aus Labrador, mit Anmerkung. Denkschr. Königl.-Baier. Bot. Ges. Regensburg 1(2):1-30.
Schweinitz, L.D. de. 1822. Attempt of a monography of the Linnaean genus *Viola*, comprising all the species hitherto observed in North-America. Amer. J. Sci. Arts, ser. I, 5:48-81.
Schweinitz, L.D. de. 1824. An analytical table to facilitate the determination of the hitherto observed North American species of the genus *Carex*. Ann. Lyceum Nat. Hist. New York 1:62-71.
Schweinitz, L.D. de., & J. Torrey. 1825. Monograph of the North American species of the genus *Carex*. Ann. Lyceum Nat. Hist. New York 1:283-374, pl. 24-28bis.
[Silliman, B.] 1833. The herbarium of the late Zacchaeus Collins of Philadelphia. Amer. J. Sci. Arts, ser. I, 23:398-399.
Simmons, H.G. 1913. A survey of the phytogeography of the Arctic American Archipelago with some notes about its exploration. Acta Univ. Lund., ser. 2, 9(19). [iii] + 183 pp. + 2 maps.
Sornborger, J.D. 1900. The Labrador Flying Squirrel. Ottawa Naturalist 14:48-51.
Sprague, T.A. 1922. Grauer's *Decuria*. J. Bot. 60:267-272.
Sprent, F.P. 1927. MacGregor, Sir William (1846-1919). In: The Dictionary of National Biography: 1912-1921 [= 3rd suppl.]. Oxford: Oxford University Press. pp. 357-358.
Stafleu, F.A., & R.S. Cowan. 1976. Taxonomic Literature: a Selective Guide to

Botanical Publications and Collections with Dates, Commentaries and Types, ed. 2. Volume I: A-G. Regnum Veg. 94. xl + 1136 pp.
Stafleu, F.A., & R.S. Cowan. 1979. Taxonomic Literature: a Selective Guide to Botanical Publications and Collections with Dates, Commentaries and Types, ed. 2. Volume II: H-Le. Regnum Veg. 98. xviii + 991 pp.
Stafleu, F.A., & R.S. Cowan. 1985. Taxonomic Literature: a Selective Guide to Botanical Publications and Collections with Dates, Commentaries and Types, ed. 2. Volume V: Sal-Ste. Regnum Veg. 112. [v] + 1066 pp.
Stafleu, F.A., & R.S. Cowan. 1988. Taxonomic Literature: a Selective Guide to Botanical Publications and Collections with Dates, Commentaries and Types, ed. 2. Volume VII: W-Z. Regnum Veg. 116. lvi + 653 pp.
Stecker, [G.]A. 1886. In journeyings often. Periodical Accounts, ser. I, 33:665-666. (Includes ed. additions.)
Stecker, [G.]A. 1900. Account of Br. Stecker's tour to Kángiva and Ungava, Labrador. Aprii 17th to May 4th, 1899. Periodical Accounts, ser. II, 4:327-335.
Stuckey, R.L. 1967. Daniel Steinhauer, early Ohio plant collector, and his correspondence with the botanist Schweinitz. Bartonia 36:1-24.
Stuckey, R.L. 1971. The first public auction of an American herbarium including an account of the fate of the Baldwin, Collins, and Rafinesque herbaria. Taxon 20:443-459.
Stuckey, R.L. 1979. Type specimens of flowering plants from eastern North America in the herbarium of Lewis David von Schweinitz. Proc. Acad. Nat. Sci. Philadelphia 131:9-51.
Todd, W.E.C. 1963. Birds of the Labrador Peninsula and Adjacent Areas: a Distributional List. Toronto: University of Toronto Press. xiv + 819 pp. + [i] + viii + [25] pl. + 1 map.
Torrey, J., & A. Gray. 1838-1843 ["1838-1841"]. A Flora of North America: Containing Abridged Descriptions of All of the Known Indigenous and Naturalized Plants Growing North of Mexico; Arranged According to the Natural System. New York: Wiley & Putnam. Republished 1969 with introduction by J. Ewan. New York and London, U.K.: Hafner Publishing Company. 2 vols.
Townsend, C.W., & G.M. Allen. 1907. Birds of Labrador. Proc. Boston Soc. Nat. Hist. 10:264-277.
Weiz ["Weitz"], S. 1871. The establishment of a new mission station at Nullatartok. Periodical Accounts, ser. I, 28:118-123.
Weiz, S. 1891. Verzeichniss der nach Herrn Missionar S. Weiz in Labrador vorkommenden Thiere. In: Neumayer, G., ed. Die internationale Polarforschung 1882-1883. Die Deutschen Expeditionen und ihre Ergibnisse. Berlin: Verlag von A. Asher & Co. 1(Anhang):97-102.
Wheeler, E.P., 2nd. 1930. Journeys about Nain: winter hunting with the Labrador Eskimo. Geogr. Rev. (New York) 20:454-468, pl. IV.
Wheeler, E.P., 2nd. 1935. The Nain-Okak section of Labrador. Geogr. Rev. (New York) 25:240-254, pl. IV.

End Notes

1. Contribution No. 75 from the Royal Botanical Gardens, Hamilton, Ontario, Canada.

2. The full title of this journal, series I, is *Periodical Accounts Relating to the Missions of the Church of the United Brethren, Established among the Heathen*. In series II this was modified to *Periodical Accounts Relating to the Foreign Missions of the Church of the United Brethren*. It was succeeded by *Viewpoints*.

3. During the early years of their work in Labrador, the Moravians insisted upon trade monopolies in extensive areas surrounding mission sites before the missions were established, partly to enhance the economic viability of the missions and partly to prevent the importing of alcoholic beverages in the vicinity. The mission stores were leased to the Hudson's Bay Company in 1926 (Briffault 1949; Jenness 1965; Hiller 1971).

4. Johann Georg Kmoch was born at Kleinfortschen, Saxony, 24 October 1770; went to Labrador in 1797; married Mary Waters in 1812; retired in 1831; and died at Ockbrook, England, 21 December 1857 (Kmoch 1858). Kmoch does not appear otherwise to have been involved in the study or collection of plants.

5. Thomas Davidson, Sr., a native of Arbroath, Scotland, was an entrepreneur (with little success) in the production of machine-made lace, first in Nottingham, then in Philadelphia, to which he emigrated in 1832. He is mentioned in biographical references as having been the father of George Davidson, an astronomer and physiographer who also made some significant botanical discoveries in the western United States, and Thomas Davidson, Jr., a naval architect and shipbuilder for the United States Navy (Lewis 1954).

6. This reference is evidently to Daniel Steinhauer, even though he was not a pastor; the Rev. Henry Steinhauer had died in 1818, before Durand had come to Pennsylvania or begun exchanging herbarium specimens.

7. A specimen in the Durand herbarium, identified as *Saxifraga geum* L. (= *S. hirta* L.) by N.L. Britton, figured prominently in Fernald's (1929 etc.) writings on the persistence of plants in areas believed by Fernald to have escaped Wisconsinan glaciation. The label data indicated that this specimen, supposedly representing a species otherwise known only from Europe (although it was not seen by Fernald nor has its identity been confirmed by subsequent authors), had been collected by Steinhauer in Newfoundland (Fernald 1926-1927). However, since Durand's specimens of North American plants had been placed in folders "containing two or more collections with labels, all loose" (Chase 1936), it seems highly probable that the specimen, the locality datum, and the supposed collector's name do not belong together. Although Daniel Steinhauer "presented" Labrador specimens to Durand, neither he nor Henry Steinhauer visited Newfoundland or Labrador.

8. For the full title of the journal cited here as *Periodical Accounts*, see end note 2. Most papers cited from this journal are anonymous translations from the authors' original German.

Canadian Horticultural History/Histoire de l'horticulture au Canada 2(4): 223-242, 1991

THE BOTANICAL PURSUITS OF THE REV. ANTON SCHAFFRANEK (1834-1923)[1]

James S. Pringle
Royal Botanical Gardens,
Box 399, Hamilton, Ontario, Canada L8N 3H8

Abstract

Anton Schaffranek (1834–1923), a native of Altona in present-day Germany, received his doctorate from the university in Dresden in 1854. In 1865 he came to Vanbrugh, Ontario, as a schoolteacher and pastor. He began work on an illustrated flora of Ontario, but this was never published. After serving as a teacher and pastor in Illinois, Louisiana, Missouri, and West Virginia from 1870 to 1883, Schaffranek moved to Palatka, Florida, and published at least two works on the flora of Florida. These included names for several new species, but these names were not validly published under the rules of botanical nomenclature. After 1892, in St. Charles, Missouri, he worked on an illustrated flora of the United States and Canada, but this was not completed, and nothing is known to remain of the illustrations, nor of his allegedly large herbarium.

Résumé

Anton Schaffranek (1834–1923), originaire d'Altona (aujourd'hui l'Allemagne), reçut son doctorat de l'université de Dresde en 1854. En 1865, il émigra à Vanbrugh, Ontario, et y travailla comme maître d'école et pasteur. Il commença le projet d'une flore illustrée de l'Ontario qui ne fut jamais publiée. Après avoir travaillé comme enseignant et pasteur en Illinois, en Louisiane, au Missouri et en Virginie de l'Ouest de 1870 à 1883, Schaffranek s'installa à Palatka, Floride, et publia au moins deux ouvrages sur la flore de la Floride. On y trouve les noms plusieurs nouvelles espèces, mais ces noms ne furent pas publiés selon les règles de la nomenclature botanique. Après 1892, à St. Charles, Missouri, il travailla sur une flore illustrée des États-Unis et du Canada, mais cette oeuvre ne fut jamais complétée et on ne connaît rien de ce qu'il est devenu des illustrations ni de son présumé important herbier.

Traduction de Céline Arsenault, Jardin botanique de Montréal

During the nineteenth century, at least nine professional and amateur naturalists made plans to write a descriptive flora of all of British North America, or of Canada in the pre-Confederation sense, or at least of Ontario. Except for Sir William Jackson Hooker, then of Glasgow, Scotland, who completed his *Flora Boreali-Americana* in 1841, all fell short of their goal to some extent. Some did succeed in making major contributions to Canadian floristics, and nearly all published enough in botany to secure their places in Canadian botanical history. However, when I encountered an announcement of a projected illustrated flora of Ontario, dated 1880 and signed by "Rev. A. Schaffranek, D.Phil.," the author's name was totally unfamiliar, and the standard resources of botanical history provided very little information on him. The present paper is the result of my investigations into the life of Schaffranek and the outcome of his endeavours in floristics.

Publication date: February 1992

One reference in which Schaffranek's name can be found is *The Naturalists' Directory*, in which he was listed from 1880 to 1905, except for a few years after his departure from Florida, when his new address was probably unknown to the compilers. This directory, published at frequent intervals in North American and International editions (some of the latter being titled *The International Scientists' Directory*), listed numerous hobbyists and professionals in many branches of the sciences[2]. In Schaffranek's time it catered particularly to devotees of the late-Victorian fad of collecting, enabling those listed to indicate the kinds of specimens they would like to acquire or exchange. Schaffranek listed his fields of interest as botany, zoology, entomology (Diptera, Hemiptera, Hymenoptera), mineralogy, conchology, Indian relics, and, beginning in 1892, horticulture and chemistry. Until a more concise format was imposed, he also listed his publications and his projects in botany.

There is, moreover, a biography of Schaffranek in a compendium of biographies of residents of St. Charles, Lincoln and Warren counties, Missouri.[3] As noted in Schaffranek's obituary in the *St. Charles Cosmos-Monitor*,[4] it "no doubt was written by himself," as such biographies usually were and are, aside from the requirements of format imposed by the compilers. Although Schaffranek's botanical accomplishments are exaggerated, it appears reliable as a source of basic biographical data, e.g. on his place of birth and education. This is the source of such data in the present paper that are not attributed otherwise, and is referred to here as Schaffranek's "autobiography."

Anton Schaffranek was born 18 September 1834, according to his naturalization papers at Palatka, Florida, which seem the most reliable source. This date is also consistent with his age as given in his obituary in the *St. Charles Banner-News*.[5] (The year is given as 1835 on his gravestone and as 1836 in his autobiography; presumably 59 sounded better than 61 to Schaffranek in 1895. The earlier date is also more compatible with the date of his degree.) His birthplace was in or near Altona in the Duchy of Holstein (now Germany). He was the son of Friedrich W. Schaffranek, who had come to Holstein from his native Prussia. Anton Schaffranek received his early education in Altona, following which he was sent to Saxony (now Germany), where he was placed under the tutelage of Professor (Heinrich Gottlieb) Ludwig Reichenbach (1793–1879).[6] Reichenbach, a noted and prolific botanical author, was at that time director of the botanical garden and professor of natural history at the college of medicine in Dresden. Under Reichenbach, the young Schaffranek "visited and studied in" the botanical garden. His subsequent education was at the Gymnasium and University in Leipzig, where Reichenbach's son Heinrich Gustav (1824–1889), who also became a noted botanist, was a student and, after 1852, a lecturer. Schaffranek received the degree of Doctor of Philosophy in 1854.[7] His graduate study evidently concentrated on botany, particularly plant physiology. Although he subsequently became a clergyman, how much theology, if any, was included in his studies at Leipzig or elsewhere is not indicated in his autobiography.

After graduation Schaffranek returned to Holstein, where he was employed for a time as a tutor for families of the nobility. Later he taught at the normal school in Altona and concurrently at schools in adjacent Hamburg. In 1862 he married Lucy von Brockdorf (1832–1892), a native of Holstein. During the Prussian-Danish War of 1864, he was a member of the provisional government and president of the relief society. After the war he served briefly as rector of the Real School in Wesselburen, northwest of Hamburg, but, "not being satisfied with the results of the war, he determined to leave the country."

In 1865 Schaffranek went to Renfrew County, Canada West (Ontario after 1 July 1867). Since 1858, many German-speaking immigrants of diverse religious affiliations and educational backgrounds had been coming to Renfrew County,[8] some seeking farmland that was not available in their densely populated homelands, others because they, like Schaffranek, were displeased with the provisions of the Treaty of Vienna or wanted to escape the successive wars of the Bismarck era.

The little German settlement of Vanbrugh in Sebastopol Township[9] was exceptional among Renfrew County communities of the time, because it was settled by "extremely well-educated" Germans who had been able to purchase farms already partially cleared by earlier Irish free-grant claimants.[10] Some with urban backgrounds soon found that farming was beyond their endurance, but others prospered as farmers even though the land around Vanbrugh has in modern times been classified as having "no capability for crop use or permanent pastures" or at best as having "severe limitations."[11] The value these early settlers placed on education was expressed in the unusual dispatch with which they established a school and advertised in newspapers in their homeland for a qualified teacher for their children.[12]

It was in response to one of these advertisements that Schaffranek came to Vanbrugh. In addition to teaching, his responsibilities included the religious ministry to the community.[13] Although his congregation dated its founding from 1862, in 1865 it still lacked formal organization or identification with any denomination. Schaffranek was promptly ordained by the High Church of England, which paid him a salary for preaching.[14] In view of his background, his lasting ties to German-language institutions, and his subsequent denominational affiliations, it can only be assumed that his association with the Church of England at this time was largely a matter of expediency, related either to that Church's requirements for ordination and the speed of the process, or to a desire to affiliate with what he may have seen as the "mainstream" of Canadian religion.[15] He immediately became a British subject upon establishing himself in Renfrew County.[16]

For a botanist, Renfrew County in 1865 was in one sense a land of opportunity. There had been little botanical exploration of Canada West, and what little had taken place had been confined almost entirely to areas near the shores of the Great Lakes; the uplands of present-day eastern Ontario were unknown floristically. Even by the standards of 1865, however, Vanbrugh was isolated, culturally and otherwise. The nearest railhead was at Almonte, 110 km away by rough wagon road (by 1870 the rails were still no nearer than Sand Point), and even riverboat transportation was 55 km away at Farrell's Landing, near present-day Castleford. The nearest of Canada West's tiny, struggling, sectarian universities were at Kingston and Ottawa, and the nearest one employing a professional biologist was at Toronto. Teaching elementary school in Vanbrugh's one-room, squared-timber building was not at all consistent with Schaffranek's ambitions. Therefore, intrigued as he may have been with the unstudied, uncatalogued flora of Canada West and of Renfrew County in particular, he doubtless hoped for and sought opportunities for professional advancement elsewhere.

There is, moreover, evidence that Schaffranek's congregation was not satisfied with his leadership of the worship services. The congregation's history[17] records that "Dr. Schaffranek remained only one year, as most of the congregational members joined the Baptists." Shortly after his departure, however, the congregation in Sebastopol Township became fully organized as St. John's Lutheran Church, although it continued to be served by itinerant ministers of various denominations for several more years.

Of the next four years, Schaffranek wrote only that he had spent this time "studying the flora and preaching the Gospel." His name is absent from the Renfrew County directory for 1866–1867,[18] but listing therein was by payment and included only a small proportion of the county's residents. Dr. Brenda Lee-Whiting, author of several works on Renfrew County history, believes that Schaffranek became pastor of a church in Arnprior, but could not provide the source of this information.[19] Arnprior was a larger community than Vanbrugh (with a brick schoolhouse since 1864) and, being located on Ottawa River at the eastern edge of Renfrew County, it was much less isolated. It does appear that Schaffranek became a Lutheran minister, although his status within that denomination was evidently less than that of a fully ordained clergyman. Despite the small number of Lutheran clergy then in Canada, Schaffranek's name is absent from the histories of Lutheranism in this country, and during the 1860s all of Renfrew County was the parish successively of the Rev. L.H. Gerndt and the Rev. F.W. Franke. Schaffranek's Lutheran affiliation is indicated, according to Dr. Lee-Whiting,[20] in a report from the Canadian Synod to the 27th convention of the Pittsburgh Synod,[21] October 1869, which stated that "For conduct unworthy of his sacred office, A. Schaffranek, Ph.D., was deposed from the Gospel Ministry, and his name stricken from the roll of Synod."

This was a time of turmoil in the Lutheran Church in Ontario. According to Cronmiller's history of the Lutheran Church in Canada,[22] Franke's "pastorate [of Renfrew County] proved very divisive ... He caused a division in several of the congregations," some of which lost members, and some of which transferred their affiliation to the Missouri Synod. Considering the events of the times and Schaffranek's subsequent affiliation with a theologically more liberal denomination, it seems likely that the "preaching the gospel" to which he referred in his autobiography involved a breach with the authority of Synod or specifically with Franke. Neither Lutheran nor Arnprior histories[23] indicate that any Lutheran congregation existed in Arnprior before 1889. Nor does the section on churches in the Arnprior history indicate that Schaffranek could have been the pastor of the Anglican or any other lasting church among the few that had been established in Arnprior before 1870. It may well be, however, that Schaffranek attempted to establish an independent congregation. In any case, it seems probable that the charge of misconduct was denominational in context, since it did not prevent Schaffranek's subsequent employment in schools or in the pastoral ministry of another denomination.

Also during the late 1860s, the German population of Renfrew County declined sharply, as many of the farmers wearied of their struggles with the rocky soil and sought more productive lands elsewhere.[24] Consequently, there would have been less demand for Schaffranek's services, either pedagogical or pastoral, and Renfrew County would have been less attractive to the staunchly Germanic clergyman.

Schaffranek's autobiography states that in September 1870 he became a faculty member at Dyrenfurth [sic] College in Chicago. (The *Cosmos-Monitor*, in his obituary, embellished this by saying that he had been called to a "chair" at that college.) What subjects he taught is not indicated. Extant Chicago historical records from that period, graciously searched by Ms. Anne Steinfeldt of the Chicago Historical Society, do not indicate that any "Dyrenfurth College" ever existed. The city directory for 1867[25] does show, however, that there was at that time the Illinois School of Trade, of which J. Dyhrenfurth was president, with Louis F. Dyhrenfurth being "teacher of penmanship and German" and Philip C. Dyhrenfurth being affiliated in an unspecified capacity. The three Dyhrenfurths resided at the same location as the school. Whether the Illinois School of Trade, in its last days, took the name Dyhrenfurth College, or whether this designation was coined by Schaffranek,

is unknown, in the absence of directories for 1870–1871. The school seems to have been short-lived and to have had little impact on the Chicago educational scene, in view of the absence of any other reference to it in the resources of the Chicago Historical Society. Having been located at 116–118 Randolph Street, its physical plant was undoubtedly destroyed in the fire of October, 1871, and the Dyhrenfurths may have been unable to resume operations.

There are, apparently, no extant directories indicating where Schaffranek resided during his nineteen months in Chicago. His autobiography mentions no loss of specimens, drawings or manuscripts in the fire. Indeed, the only mention of the Chicago fire encountered in this context was in Schaffranek's naturalization documents, which include a letter from the Clerk of the Circuit Court stating that his immigration records had been destroyed when the Cook County courthouse burned.

In April 1872 Schaffranek went to New Orleans as Curator of the New Orleans Academy of Science. During much of the nineteenth century this Academy's existence was precarious, with periods of significant activity alternating with periods of near-dormancy.[26] This situation is reflected in the intermittent appearance of its publications. By the 1870s, local academies of science generally were experiencing uncertainties and conflicts about their roles, as the sciences became increasingly professionalized and compartmentalized. In Louisiana, moreover, with the Reconstruction era not yet ended, state and municipal governments were in chaos. According to Schaffranek, the cessation of financial support for the Academy from the state government resulted in the abolition of the position of Curator not long after his arrival.

Following the abolition of his position with the New Orleans Academy of Science, Schaffranek became Superintendent of the German-American School of New Orleans. This was one of several secondary schools serving the German community of New Orleans, which was then about 30,000 strong; it was affiliated with the denomination in which Schaffranek later became a pastor (below). Whereas the public-school system of New Orleans, a victim of Reconstruction, had "collapsed utterly," the German schools were "functioning smoothly." They, and the influence of the German community in the cultural life of New Orleans, were at their zenith in the 1870s.[27]

Later, Schaffranek assumed what was probably his first regular pastorate, at the First German Evangelical Congregation of Carrollton, a suburb that had just been annexed by New Orleans. The only published record of Schaffranek's activities in New Orleans encountered in this study, aside from his autobiography, dates from this period. He was one of 21 signatories to a letter requesting William H. Williams, a long-time resident, to write a history of Carrollton in observance of the centennial of American independence.[28]

The small denomination in which Schaffranek held pastorates in Carrollton and later in St. Charles and Wheeling (below) was founded as the German Evangelical Protestant Church by the amalgamation of several independent German-speaking congregations. "German" was later dropped from its name. In 1890, there were 52 congregations in ten states, mostly in the Ohio and Mississippi valleys, with 36,156 communicants. This church was described as "very liberal" in its theology, "with rationalistic views generally prevailing."[29] In 1925 it became part of the Congregational Christian Church, which in turn became part of the United Church of Christ in 1957. It is to be distinguished from the larger denomination that became the Evangelical United Brethren, which did not unite with the Congregational Christian Church until 1957.

According to Professor Joseph Ewan,[30] a longtime scholar of Louisiana botanical history, Schaffranek's name is not present in his "considerable file" of Louisiana residents who were interested in botany, which includes the "notes on biologists of the Southeast" compiled by the late Samuel W. Geiser. Nor was Schaffranek mentioned by Cocks in his "Historical sketch of the botany of Louisiana."[31] The leading figure in Louisiana botany during the early 1870s was Americus Featherman (1822–"1891 or later"; originally Federmann), a native of Öttingen, Bavaria, who was professor of botany at the State University in Baton Rouge. From 1870 through 1872, Featherman conducted floristic surveys of various sectors of Louisiana, the results of which were published by the State.[32] Ewan speculated that Schaffranek might have "met with some unfriendly dominance in the field" of botany upon his arrival in Louisiana. It is perhaps more likely that Schaffranek would have been discomfited by the presence of an already recognized and published botanist. Whatever plans Schaffranek may have had for botanizing in Louisiana, he left no record of any accomplishments in botany during this period in his life, nor is there any record of collaboration with Schaffranek among the specimens or writings left by Featherman or other Louisiana naturalists.

In 1876 Schaffranek accepted a call to the Evangelical Protestant Church of St. Charles, Missouri, in which pastorate he remained until 1879.

The opportunities of which Schaffranek failed to take advantage during his periods of residence in St. Charles, especially from 1876 to 1879, provide some indication as to the cause of the very limited success of his botanical endeavours and perhaps some of his other enterprises. To someone who allegedly traveled to every state in the Union and all of the European countries (according to his autobiography), the 35–km train trip from St. Charles to St. Louis could hardly have been daunting. St. Louis in 1876 already had a sizeable scientific community, foremost in which was George Engelmann, M.D. (1809–1884), a native of Frankfort-am-Main, from a Reformed Church family.[33] Engelmann was one of America's most distinguished and accomplished botanists, noted especially for his studies of western North American plants and his monographs on cacti. He was well acquainted with Asa Gray of Harvard, the leading American systematic botanist of his time, and had the rather rare distinction among "western" American botanists of being highly regarded by Gray. Engelmann, called the "scientific father" of the Missouri Botanical Garden, had some 20 years earlier patiently explained to its founder, Henry Shaw, the true nature of a *botanical* garden, and it was largely due to his efforts that the Garden became a major research institution instead of merely a showplace. Engelmann "exerted a strong influence on the botanical interests of other native Germans." His protégés in botany residing in St. Louis in 1876 included Friedrich Adolph Wislizenus (1810–1889), who some 30 years earlier had conducted extensive botanical explorations in Texas and northern México. Engelmann probably also encouraged Heinrich ("Henry") Karl Daniel Eggert (1841–1904), a native of Prussia, who lived in East St. Louis, Illinois. Eggert botanized widely in the southern United States, compiled a catalogue of the plants of St. Louis and vicinity,[34] and amassed an herbarium of ca. 60,000 specimens through his own collections and exchanges.[35]

In the correspondence of Engelmann, now at the Missouri Botanical Garden, there is only one letter from Schaffranek, in German, dated 19 November 1878. It refers to a pleasant visit with Engelmann several weeks earlier, during which Schaffranek was given a tour of the Garden. It permits the inference, however, that his associations with Engelmann and with the Missouri Botanical Garden could have been neither close nor frequent. Specifically, he referred to a set of volumes on fungi that Engelmann had shown him and asked for the particulars thereon, including a source, or alternatively for permission to borrow it for a few weeks. Archival material

at the Missouri Botanical Garden contains no correspondence from Schaffranek among the papers of any of Engelmann's successors as director.

In 1876 the Academy of Sciences of St. Louis was 20 years old, and was publishing a journal of significant research papers. Although (in his autobiography) Schaffranek took pride in the number of scientific socieities of which he was a member, he was never a member of the St. Louis Academy, nor does his name appear in any other context in the Academy's publications.[36]

In 1879 Schaffranek left St. Charles for the pastorate of St. John's German Independent Church in Wheeling, West Virginia, a flourishing congregation of some 220 families with a recently constructed building.[37] The entry for Schaffranek in the Wheeling city directory for 1880[38] noted that he was pastor of this church and also president of the Naturhistorishche Gesellschaft von West Virginien. Elsewhere in the same directory, the entry for the Naturhistorische Gesellschaft stated that Schaffranek was president, Theodore Schreiber, a Wheeling "florist and wine grower" was secretary, and that it met "1st Wednesday evening of each month in basement of St. John's German Independent Protestant Church." After Schaffranek's departure from Wheeling, however, the city directories ceased to mention the Naturhistorische Gesellschaft, and the extensive local-history resources at the Ohio County Public Library[39] in Wheeling appear to contain no other material either on Schaffranek or on the Gesellschaft.

Unlike the vicinity of St. Charles, the Wheeling area had no scientific or natural-history "establishment" in 1879. (Earlier, Henry Ney Mertz, of German ancestry but born in Ohio, and Gustav von Guttenberg, a native of Tamsweg in the Duchy of Salzburg, had lived in Wheeling and had engaged in botanical collecting and floristic studies. In 1879, however, Mertz moved to Steubenville, Ohio, and von Guttenberg to Erie, Pennsylvania. Although Mertz was then only 40 km from Wheeling, he appears to have been much less active in botany, at least in West Virginia, after his return to Ohio.[40]) In this vacancy, Schaffranek quickly took advantage of the opportunity to assume the role of leader. Later, West Virginia became the home of a sizeable number of active, widely known naturalists, and among their writings are comprehensive histories of both botany and ornithology in West Virginia, the former being the subject of an entire book.[41] This literature contains no mention either of Schaffranek or of the Naturhistorische Gesellschaft von West Virginien. It appears that despite its fertile environment for natural-history research, the Gesellschaft made no significant or lasting contributions to West Virginia biology. Despite its comprehensive name (and the anglicization noted elsewhere in this paper), its membership apparently comprised only German-speaking residents of Wheeling, perhaps only from the congregation of St. John's, and it evidently did not long survive Schaffranek's departure from Wheeling.

It was in 1880, while at Wheeling, that Schaffranek wrote to the editor of *The Canadian Horticulturist*, Delos White Beadle of St. Catharines, informing him and the readership of his plans for a flora of Ontario.[42] His writing to this journal was in response to an article by James MacPherson that commented upon the absence of and need for a flora of Canada or preferably of all of North America. It is interesting that Schaffranek, in Wheeling, should have seen MacPherson's article, since *The Canadian Horticulturist* had not begun publication until 1878. Evidently Schaffranek was diligent in keeping up with the literature of the plant sciences. Schaffranek stated that he had begun work on his flora of Ontario "a few years" earlier, and expected to have it completed by the spring of 1881. He also said that he had already completed 200 plates, and that, "If an occasion should offer," he "would not fail to lay before you [the editor] for examination that part which is done, in order to have

your judgment." He also wrote that he had "lost different species of the *Cyperaceae* [sedge family] and *Grammineda* [sic; = Gramineae, grass family]," and requested that readers who had collected specimens of plants in these families send him their addresses.

One might suspect that Schaffranek hoped to receive specimens of these "difficult" groups that had already been identified by qualified persons. Another possibility is that Schaffranek's grass and sedge specimens had been at the school at the time of the Chicago fire, while specimens representing other families had been elsewhere and had not been destroyed. In any case, the fact that Schaffranek emphasized these families rather than making a simple request for any Ontario plant specimens would appear to indicate that he already had a significant herbarium of Ontario specimens. Also, he could hardly have offered to let the editor examine the completed plates unless some actually had been produced.

According to his autobiography, Schaffranek's health deteriorated while he was in Wheeling, to the extent that he resigned his pastorate in 1883 and moved to Palatka Heights, Florida – in the same year in which Henry Morrison Flagler came to Florida and began his developments along its east coast. Considering Schaffranek's age, it may not be unduly cynical to suspect that an inheritance might also have influenced his decision to take a respite from pastoral responsibilities at this time. That he did so is apparent from a list of Putnam County churches, past and present as of ca. 1936, which indicates that the only organized congregations in Palatka and vicinity in 1883–1892 were African Methodist Episcopal, Baptist, Episcopal, Methodist, Presbyterian, and Roman Catholic.[43] Schaffranek's autobiography notes only that during his nine years in Palatka he "made a special study of the local flora."

The vicinity of Palatka had on several previous occasions figured promimently in botanical history.[44] In 1765, John and William Bartram, two of early America's best-known naturalists, explored the area along the St. John's River. William Bartram settled for a time near Picolata and conducted further botanical exploration of the area. Noted naturalists who visited Palatka in the early years of the nineteenth century included Thomas Say and John James Audubon, both of whom were primarily interested in birds, and John Eatton LeConte, whose accomplishments were significant in both botany and entomology. In 1843 Samuel Botsford Buckley, botanizing on behalf of John Torrey, wrote to Torrey from Palatka that, if he only had his health, he could send specimens of many "strange" plants, believed to be new to science, that abounded in the area. (William Bartram, LeConte, and Buckley had all become seriously ill in Florida. Obviously, 40 years had greatly changed the reputation of the Palatka area as a healthy place in which to live!) In March 1872 Torrey himself traveled up the St. John's River from Jacksonville to Enterprise, stopping at various localities and enthusiastically observing many plant species that he had hitherto seen only as herbarium specimens.

Closer to Schaffranek's time, Abram Paschal Garber, from Pennsylvania, had published in the *Botanical Gazette* an account of his own floristic studies in northeastern Florida.[45] Garber was greatly impressed by the beauty of Palatka and of the St. John's River. "The vegetation was extremely interesting in this wild pine land," according to Garber, who listed many rare and distinctive species of the respective diverse habitats. Schaffranek almost certainly would have seen the *Botanical Gazette*, which had a wide circulation among professional and amateur botanists and plant collectors; Garber's enthusiastic report could well have influenced him to locate in Palatka. The year following Garber's publication, Allen Hiram Curtiss began his extensive botanical explorations of Florida with a trip up the St. John's River, and Mary Collins Reynolds of St. Augustine also botanized along this river,

contributing especially to the knowledge of the fern flora.[46] Their interesting discoveries, reported by Asa Gray, to whom they had sent specimens, might also have drawn Schaffranek's attention to the area.

It was at Palatka, while presumably he was free from teaching, administrative, and pastoral responsibilities, that Schaffranek was most active in botany. During this time he wrote his only two botanical works that are definitely known to have been published. The first of these was "The flora of Palatka and vicinity,[47]" which occupied much of the front page of a Saturday edition of Palatka's daily newspaper. The first part of this article included an encomium to the quality of life in Palatka, noting the beauty of the native flora and the many ornamental plants cultivated there. After listing, some by Latin names, diseases and debilities to which mankind was subject in the North, he wrote that in Palatka "the rule is predominant: `Good health in all seasons.'"

According to this article, Schaffranek had "very often ... been requested, indeed, to give [his] opinion and to write some articles on the sandy soil of Palatka, etc., whether anything could be raised on it or nothing at all." On the basis of his own researches, he wrote, he could by that time say: "Look here, 21 months ago my place was a wilderness, now it is to me `a Sweet Home.'" He mentioned a large number of vegetables, fruits, and other crops that could be grown in Palatka, many of them presumably having succeeded in his own garden, since he invited his readers to "come and see." He also announced plans to write a flora of Florida, toward which he took "the opportunity of soliciting information" from those interested in assisting.

The second part of this article was a catalogue of the wild plants of "Palatka and vicinity," in which 587 species of seed plants and vascular cryptograms were listed. In view of Schaffranek's heavy dependence on Chapman's *Flora of the Southern United States* in the preparation of his *Floral Almanac*, discussed below, it is not unreasonable to suspect that some species were listed speculatively, on the basis of their ranges as given by Chapman, rather than having been found and identified by Schaffranek himself within the time that he had lived in Florida. Some of the names listed, e.g. *Andromeda calyculata* L. (= *Chamaedaphne calyculata* (L.) Moench), *Leucothoë catesbaei* A. Gray (= *L. fontanesiana* (Steud.) Sleum.), and *Viburnum acerifolium* L., appear to represent either grossly unwarranted speculations or misidentifications, since these species occur no nearer Palatka than the mountains of northwestern Georgia and were not attributed to the flora of Florida by Chapman. Nevertheless, this list and the *Floral Almanac* do give some evidence of an intensive and quite competent study of the flora of Palatka. This appears most strikingly in the inclusion of five species believed by Schaffranek to be new to science and named by him: *Nymphaea pumila*, *Phaseolus Lauppii*, *Clitoria Schreiberi*, *Cuphaea micrantha* ("*mircranthe*," obviously one of many misreadings of Schaffranek's handwriting by the typesetter), and *Selaginella Mariana* (Schaffranek's capitalizations retained). These names, under the retroactive provisions of the present International Code of Botanical Nomenclature, were "effectively published" by Schaffranek. However, since they lacked any accompanying descriptions, illustrations, or other indications as to what plants were designated by these names, these names were not "validly published," and therefore they have no standing in matters of nomenclatural priority.

Since Laupp is not a common family name, it may reasonably be assumed that *Phaseolus Lauppii* was named for Franz Laupp (1855–1926), a member of Schaffranek's congregation in Wheeling and nephew of Theodore Schreiber. At that time, Laupp was employed by his uncle. Later, he studied horticulture and floristry

in Germany and New York and, after his uncle's death, took over the florist business. As Laupp Florist, "Wheeling's oldest florist," the business was still in the family at the time of this writing.[48] It may also be assumed the *Clitoria Schreiberi* was named for Theodore Schreiber (d. 1888), the Wheeling grape grower and florist who had been secretary of the Naturhistorische Gesellschaft.

The epithet *Mariana* has been used in botanical nomenclature of mean "of Maryland" and, less often, "of the Blessed Virgin Mary." Since Schaffranek would not likely have given a name with either of these meanings to a species of *Selaginella* discovered near Palatka, it seems possible that the name *S. Mariana* indicates an acquaintance with Mary Reynolds (above), who, being especially interested in pteridophytes, might have called Schaffranek's attention to this spikemoss.

There is indeed a species of *Selaginella* native to Florida, which has been found in Palatka, that remained unknown to science until 1898. It is quite likely that Schaffranek recognized this species, now known as *S. arenicola* Underw., as being distinct and gave it a name, although in the absence of a description or a specimen so labeled it is impossible to be certain. There now occurs in Florida *Cuphea carthagensis* (Jacq.) Macbr., naturalized from South America, which has smaller flowers than the native species. This was not reported in the United States until the 1920s.[49] It is possible that Schaffranek encountered *C. carthagensis* naturalized in Florida some four decades earlier, but, since he listed no other species of *Cuphea*, it seems more likely that he did not recognize specimens from Palatka as representing the widespread *C. viscosissima* Jacq., for which Chapman gave the range as the "upper districts" of the southeastern United States.

In northwestern Florida, as far east as Taylor County, there is a small-flowered waterlily, *Nymphaea odorata* Ait. var. *godfreyi* Ward, and farther south, north to Orange County, there is a species of *Clitoria*, *C. fragrans* Small, endemic to Florida, neither of which was known to science in Schaffranek's time. Depending upon the extent of Schaffranek's travels in Florida and his concept of the "vicinity" of Palatka, it may be that these taxa were also discovered and given names by him. There are so many species of *Phaseolus* and the taxonomy of this genus is so complex (it formerly included species now placed in *Strophostyles*) that it is scarcely feasible to speculate as to the identity of Schaffranek's *P. Lauppii*.

Schaffranek's second botanical work written in Palatka was *A Floral Almanac of Florida*.[50] This is a booklet of about 11 9/16 x 9 3/8 inches, in paper covers, with 37 pages printed on one side only. It lists 1700 species of Florida plants in chronological sequence of flowering. Other information in this list includes "natural order" [= family], habitat, and usually the distribution if the species is not widespread in Florida. It was dedicated by Schaffranek "To his friends, Dr. George Vasey, U.S. botanist, Department of Agriculture, Washington, D.C., and Hon. William Saunders, Superintendent of Experiment. Garden, Department of Agriculture, Washington, D.C., ... with lasting esteem and friendship."

In the preface, Schaffranek referred to the "arduous labor bestowed for years upon this work." Close examination, however, indicates that the *Almanac* represents considerably less work by Schaffranek than would at first appear. Fifty-six "new species" are listed, but these were in fact named and described by Alvan Wentworth Chapman (1809–1899) in his *Flora of the Southern United States*, published in 1883.[51] Chapman, who became the leading authority of his time on the southern flora, was a physician and surgeon who practised, successively, in Quincy, Marianna, and Appalachicola, Florida. Evidently the plant names, with authorship citations, were copied verbatim from Chapman's *Flora*, even to the extent that

Chapman's "n. sp." was consistently left as such rather than being changed to "Chapm." Many of the habitat data, distributional notes (including virtually all references to Florida localities distant from Palatka), and dates of flowering, for other species as well as for those named as new species by Chapman, were also taken verbatim or nearly so from Chapman's *Flora*, which was not mentioned anywhere in the *Almanac*. Doubtless many of the references to occurrences of species in Palatka were based on Schaffranek's own observations, but otherwise the *Floral Almanac* appears to be much more of a compilation of information from Chapman's *Flora* than a reflection of a thorough knowledge of the Florida flora on Schaffranek's part.

Schaffranek's new *Cuphea* was again listed in the *Almanac*, as "*Cuphea microphylla* Schaffk.," evidently a lapsus calami for *micrantha*. Its habitat was given as "rich open woods, Palatka," but again there was no description.

The 1888 edition of *The Naturalists' Directory* listed not only the *Floral Almanac* but also "Florida fruits" as having been authored by Schaffranek. No information on the latter work has been encountered in this study. Quite possibly it was published in *The Palatka Daily News*, but, unlike the "flora of Palatka," this work was not listed in the published union catalogue of the National Agricultural Library or in any similar reference, and so it could not readily be located.

By the 1892 edition of *The Naturalists' Directory* (or earlier), yet another publication was listed, this having the impressive title "Synopsis of medical plants of the United States and Canada." This was also mentioned as "already published" in Schaffranek's autobiography. No publisher or date or place of publication was cited, and I have found no clue as to its size or format, nor even any confirmation that it even existed. The title is absent from the published union catalogues of the Library of the United States Surgeon-General's Office, the National Agricultural Library, the Library of Congress, the German and French counterparts of the last-named, and the British Museum (Natural History), as well as from all bibliographies of medical botany consulted in the present study. Perhaps, however, it awaits discovery in the microfilms of *The Palatka Daily News*.

Entries in *The Naturalists' Directory* also indicate that while in Palatka Schaffranek began or at least conceived his grandest project of all. This was "The Complete Illustrated Flora of the United States and Canada," which, as planned, would be issued in 25 volumes of 100 plates each. He expected that this would be published by "the Government," possibly because of some encouragement by Vasey (who had given such encouragement to Chapman), or perhaps simply because he considered this to be a proper governmental function. As of 1895, in his autobiography, he claimed to have completed 1800 plates, "in the author's own pencil ... which for neatness and accuracy could not well be surpassed, ... neatly arranged in folders, the plates of each variety by themselves." Had this work been completed, if well executed, it could have been of great value to botany, as there were no illustrated floras of any large part of North America until 1896, and then only for the Northeast. It appears, however, that no part of this work was ever published, and no manuscript or plates are known to exist.

Although Schaffranek's health evidently improved quickly in Florida, if indeed it had been poor, this was not the case with his wife, who died in Palatka 19 February 1892 (from Record of Interments, Palatka, which, being in chronological order, gives a more reliable date than that of 1891 in Schaffranek's autobiography). With his house and gardens in Palatka Heights no longer the "Sweet Home" that they had been, his confidence in the salubrity of the Palatka climate gone, and quite

possibly his finances strained, Schaffranek understandably wanted a change of environs. He returned to his former pastorate in St. Charles the same year.

Schaffranek served the Evangelical Protestant Church of St. Charles until the late 1890s, when the congregation disbanded. In 1894, he married Bertha Gatzweiler (1848–1924), the daughter of Fred W. Gatzweiler, a St. Charles judge, and took up residence in the former Gatzweiler home, where he lived for the rest of his life.

After the dissolution of the church, Schaffranek became editor of the *St. Charles Republikaner*. This newspaper, founded ca. 1880, was a "Republican weekly"; it co-existed with the longer-lived *St. Charles Demokrat* (1852–1916), a German-language

"Democratic weekly."[52] Once again, however, Schaffranek had affiliated himself with an enterprise in decline; the demand for German-language newspapers, like German-language schools and churches, was decreasing. The *Republikaner*'s circulation fell from 1342 in 1890 to 850 in 1900; it ceased publication in 1902 or 1903, and Schaffranek went into retirement.

It was during this period that Schaffranek's biographical sketch was published, with much more emphasis on natural history than on religion or any other aspect of his life. By this time, he claimed to have "traveled in all the European countries, studying plant life," and that he had "traveled and studied extensively in Canada and Mexico, as well as in evey state in the Union." He also said that he had "fine collections in conchology, archaeology, entomology and numismatics," and that he was "a corresponding or honorary member of 26 natural-history societies or academies in the United States and elsewhere."

Also in this biography is the statement that Schaffranek corresponded "with every noted botanist in the world." This statement is so untenable, and not only because of its use of the absolute, that it contributes to the skepticism with which other claims by Schaffranek must be viewed. The professional correspondence received by many of the botanists of Schaffranek's time has been preserved and catalogued in the archives of such institutions as the Missouri Botanical Garden and the New York Botanical Garden in the United States, the National Museum of Natural Sciences in Canada, and many others in North America and Europe. Much of this correspondence has been extensively searched by botanical historians, most notably in the present context by John Hendley Barnhart in compiling his *Biographical Notes upon Botanists*.[53] Had Schaffranek written many letters to leading botanists, or been mentioned frequently in their letters, this would doubtless be reflected in Barnhart's *Notes* and in many other works. The only reference to Schaffranek that Barnhart was able to find, however, aside from the *Floral Almanac* and his listings in *The Naturalists' Directory*, was a mention of him in a letter of 19 September 1932 from F.D. Wattles of Palatka to Robert Ranson (identified on his letterhead stationery as a "chemical and soil engineer") of St. Augustine, subsequently sent by Ranson to J.K. Small[54] of the New York Botanical Garden. Barnhart's *Notes* indicate that Wattles told Ranson about Schaffranek's proposed illustrated flora, Ranson presumably having thought that Small, who was working on a flora of the southeastern United States, would be interested. It may also be inferred that Ranson told Small that Schaffranek had gone to St. Charles upon leaving Palatka. Recent searches on behalf of the present study, by archivists at the Missouri and New York botanical gardens, have turned up no letters from Schaffranek to anyone except for the one letter to Engelmann.

Works listed as "already published" in Schaffranek's autobiography included "The flora of Palatka," the *Floral Almanac*, the "Synopsis of medical plants," and

also "The influence of electricity on the action of nerves in the life of plants and animals," which was said to have been "highly complimented by the Imperial Royal Society of Physicians of Vienna." This quite likely was Schaffranek's dissertation, as the subject matter would have been closely related to research being conducted in Saxony ca. 1854, although the concept and terminology of a nervous system in plants had become obsolete by 1895. Works contemplated or said to be in progress, in addition to the "Complete Illustrated Flora," included a guide to the poisonous plants of the United States and Canada, to be illustrated in colour, for use in schools, as well as novels and a book of poems on religious subjects.

In the context of the present study, the most remarkable of Schaffranek's statements were those pertaining to his herbarium. This was said to include 30,000 specimens of seed plants and over 1000 specimens of ferns, mosses and lichens. It was also said to include many specimens of marine algae from the Atlantic, Pacific and Gulf coasts of North America and from the Atlantic and Adriatic coasts of Europe. If Schaffranek's herbarium was in fact as he described it, it would have been, although not so large as Eggert's, nevertheless among the largest private herbaria ever to have existed in North America. It would also have been one of the potentially most valuable to plant taxonomy and phytogeography, because Renfrew County, Ontario, northern Florida, and to some extent the Wheeling area remained inadequately explored botanically in 1895, and the two last-named areas are floristically rich. Specimens from "every state in the Union" and especially from México at that time would inevitably have included some species of which few specimens were available for study and, as noted above, quite likely some that were new to science.

In reality, while his plans grew more grandiose, Schaffranek again failed to avail himself of genuine opportunities to contribute to botany, and the many scholarly societies of which he proudly claimed membership did not include those in which he actually could participate. Research in botany was flourishing in nearby St. Louis, led by scientists at the Missouri Botanical Garden but also involving many keen amateurs. Shortly after the publication of Schaffranek's autobiography, there came into being the Engelmann Botanical Club, with a committee that worked on a checklist of the flora of the greater St. Louis area from 1899 to 1911. When the checklist[55] was published, the contributions of numerous individuals, including several of German origin or descent, were noted therein, but again there is no indication whatever that Schaffranek was involved with this floristic survey or with any other activity of the club.

There is one indication, however, that Schaffranek did not entirely dissociate himself from other natural historians in the St. Charles-St. Louis area. The account of his funeral in the *Cosmos-Monitor*[56] noted the attendance of several fellow "hobbyists from St. Louis," who likewise had "collected bugs, coins, Indian relics, etc."

About 1905, when he was 71, Schaffranek's enthusiasm for natural history evidently began to wane. This was the last year in which his name appeared in *The Naturalists' Directory*. Prior to this time, his interests may have shifted to a greater emphasis on entomology than on botany, as suggested by his obituaries and by accounts of his estate (below), although allowance must be made for the greater impression that "bugs" might have had on both the press and his in-laws. His health remained good, however, and he had only been ill a few days before his death at this home in St. Charles 12 November 1923. Interment was in Oak Grove Cemetary, St. Charles.

Schaffranek's estate appears to have passed in its entirety to his widow,[57]

who survived him by only a few months, dying 16 June 1924.[58] Her will made no bequests of specific items, but provided that her estate be divided among her sister, Marie Gatzweiler Hilger of St. Louis (one-third), her brother, Charles Gatzweiler of St. Charles (one-third), and four other relatives, presumably the children of her brother (one-twelfth each). Mrs. Hilger and Mr. Gatzweiler having predeceased Mrs. Schaffranek, the executrices of their estates worked with the executor of her estate in accounting for the distributing the assets. Documents from the Probate Court of St. Charles County[59] provide a detailed account of the estate of Bertha Gatzweiler Schaffranek. Among the assets were " a lot of books," "a collection of beetles, insects and bugs made by the late Dr. A. Schaffranek," "a collection of U.S. and foreign postage and revenue stamps mounted in books and unmounted," "twenty-three small pasteboard pill boxes numbered ... , most of them marked in the handwriting of Dr. A. Schaffranek, containing precious stones or minerals" (these being itemized in detail), "one other box of crystals," "a lot of Indian relics," a "lot of old coins," and a "wood cabinet." There was no mention of any botanical specimens.

Some idea of the size and value of these collections can be obtained from their disposal, as the documents indicate that the executor, Charles F. Gatzweiler, Mrs. Schaffranek's nephew, attempted to determine the monetary value of the collections and to realize as much as was feasible for the heirs. The "cut stones and crystals," although some were labeled as being diamonds, emeralds, and other precious and semiprecious gems, were appraised by a lapidary at $36.25. The Indian relics were sold to E.L. Renno, the postmaster at St. Charles, for $50.00. The old coins, sold to an unspecified buyer, brought only $0.96; some of the beetles were sold for $2.00; and $5.00 was realized from the cabinet that presumably had housed the collections. Finally, with the consent of all of the heirs, items listed as being "of no value" were "delivered to St. Charles Public Schools." These included "one lot of books," a "collection of beetles, insects and bugs, etc." and a "lot of minerals and specimens of ores, drawings." The subject matter of these drawings was not indicated, but they may well have been all that remained of the projected floras of Ontario and Florida, the illustrated flora of North America, and the guide to the poisonous plants of the United States and Canada. The brevity of their mention does not suggest that there were anywhere near the 1800 that Schaffranek claimed to have completed for the illustrated flora alone, nor does it indicate that Gatzweiler considered the drawings to have any artistic merit, since a quantity of drawings that could be considered works of art would at least have appeared to have significant monetary value.

Ms. Joanna Turner of St. Louis graciously inquired of school officials in St. Charles as to whether any specimens or drawings from Schaffranek's estate were still in the possession of the school system, but could find no evidence of anything extant. Ms. Turner also located (doubtless with considerable effort, since the name Gatzweiler no longer appears in St. Charles telephone directories) a grandniece of Mrs. Schaffranek, who remembered Dr. Schaffranek as a stern old man who refused to speak English among members of the family, and who "dazzled" her with his collections and drawings. She could provide no information, however, on the disposition of any collections.

The accounts of the disposition of the assets, like the earlier description of Mrs. Schaffranek's estate, contain no mention of botanical specimens. Since even those portions of the estate that were deemed to be of no monetary value were accounted for in some detail, and efforts were made to place these where they might be used for educational purposes, it seems highly unlikely that a large herbarium could have been among Schaffranek's effects.

The significance that Schaffranek's herbarium would have had, if in fact it was of anywhere near the magnitude and diversity that he claimed, has been noted above. Therefore, if Schaffranek in his later years, having despaired of completing and publishing his magna opera, had decided to dispose of his herbarium, any botanist who was aware of its existence would have been concerned about its fate. It would have been, moreover, a material asset. In the early part of the twentieth century, the Missouri Botanical Garden, among others, was expanding its own herbarium through the purchase of major private collections (for example, that of David Allan Poe Watt of Montréal, purchased from Watt's estate in 1919). Botanists at the Garden presumably could have arranged at least a modest contribution to Schaffranek's finances – which would doubtless have been welcome in view of the size of his estate – and presumably also to his morale through a tangible recognition of the herbarium's value. Certainly the sale or offer for sale of so large an herbarium to any institution or individual botanist could hardly have escaped the notice of systematic botanists generally.

It is possible, of course, especially if Schaffranek's herbarium was poorly housed, that it was destroyed by insects, although one would expect that at least some specimens of plants less attractive to insects, such as the mosses and ferns, could have been salvaged. Even if Schaffranek's own herbarium was destroyed, it is remarkable that there are evidently no specimens collected by him in any institutional herbaria, many of which, as noted above, inherited or purchased private herbaria from the estates of Schaffranek's contemporaries. Schaffranek's letter to *The Canadian Horticulturist* implied that he sought contributions of specimens, and his entries in *The Naturalists' Director* would also have been interpreted as inviting an exchange of specimens. To have repayed contributors of specimens with duplicates of his own collecting would not only have been relatively economical, but would have been the form of recompense preferred by most of his correspondents. Indeed, the opportunity to build up their own herbaria through exchanges would generally have been their sole or primary motive for corresponding with Schaffranek. Conversely, this would have been for him an effective means of increasing his own herbarium and acquiring the desired specimens of species that he had not been able to collect in the field himself.

It seems highly unlikely that, had such specimens existed, modern herbaria discarded specimens collected by Schaffranek or monographers did not cite them because of a lack of collection data.[60] Schaffranek's projected provincial and state floras indicate that he did appreciate the importance of locality data. Moreover, had his specimens thus been deficient, some recipients would doubtless have supplied wording such as "Collected by Dr. A. Schaffranek, Palatka, Fla.," whereby the specimens would at least appear, to later curators, to bear locality data. Apparently Schaffranek simply did not exchange, sell, or give away botanical specimens. Possibly he offered cash for specimens, or promised gifts of publications that never materialized; or perhaps more likely he expected correspondents to derive sufficient satisfaction from having contributed to his grandiose projects.

And so, despite Schaffranek's claims regarding his accomplishments in botany and the grandeur of his plans, it appears that all he actually contributed to the botanical community were two minor publications. Notwithstanding the demands of his successive careers, and although he obviously overestimated his abilities, Schaffranek probably could have contributed much more to botany. Several factors appear to have limited his success. Although his plans became grander than ever in St. Charles, the death of the first Mrs. Schaffranek and his departure from Palatka may have affected Schaffranek's motivation for "getting things down on paper" and seeing them through to publication. Also, he was obviously interested only in

projects that were "his own," disdaining joint ventures to which he might have made valuable contributions. Even with projects that he himself originated, he seems to have been so fearful of intrusion by other botanists that he limited the assistance that they might have given. The absence of letters from Schaffranek to individuals who might have responded to his requests for correspondence and specimens, and the absence of specimens collected by him in their herbaria, indicate an insensitivity to the feelings of those who could greatly have advanced his projects, as well as a failure by him to appreciate their abilities in botany. Most seriously, however, Schaffranek was evidently devoted so exclusively to projects that were far beyond his capacity that he had little interest in anything that actually was feasible. Many other botanists, like those who initiated floras of Canada during the nineteenth century, have attempted more than they could finish, but, unlike Schaffranek, have made major contributions through publishing portions of their great projects, or "inchoate" or "prelimiary" versions, along with many lesser works. It was to such as Schaffranek that Euripides had written, 23 centuries earlier, "Slight not what's near through aiming at what's far."

There remain a few areas in which one might search further for botanical contributions by Schaffranek. Since Schaffranek's specimens were not represented in the herbaria of such assiduous collectors and correspondents as Eggert, Martindale, Watt, and many others whose herbaria have been well studied by recent botanists, it is unlikely that any are extant. Nevertheless, it is not impossible that in some herbaria somewhere a few of his specimens exist. As noted above, there may be a few more articles yet to be discovered in *The Palatka Daily News*, probably in the Saturday editions. (In the interest of nomenclatural stability, one would hope that these do not include descriptions of his new species!) Microfilms of this newspaper were not searched in the present study, but are in the library of Florida State University in Tallahassee.

I am much indebted to several individuals who have made extensive searches of obscure literature and unpublished material on behalf of this study. The names and specific contributions of librarians and archivists in Chicago, New York, Palatka, St. Charles, St. Louis and Wheeling are mentioned with grateful acknowledgment in the text and footnotes. I also thank Dr. Brenda Lee-Whiting for her review of the manuscript.

NOTES

1. Contribution No. 78 from the Royal Botanical Gardens, Hamilton, Ontario.
2. Editions examined in this study were those of 1880, 1883 (*International Scientists' Directory*), 1884, 1888, 1892, 1894, 1895, 1896, 1898, 1905, and 1914.
3. *Portrait and Biographical Record of St. Charles, Lincoln and Warren Counties, Missouri.* 1895. Chicago: Chapman Publishing Co.
4. Dr. Schaffranek passed away. *Daily St. Charles Cosmos-Monitor*, Thirty-fourth year – No. 267. November 13, 1923, p. 1.
5. Untitled obituary in: *St. Charles Banner-News*, Vol. LIX, No. 46. November 15, 1923, p. 9.
6. On Reichenbach, see: Stafleu, F.A., & R.S. Cowan. *Taxonomic Literature: A Selective Guide to Botanical Publications and Collections with Dates, Commentaries and Types*, ed. 2. *Volume IV: P-Sak.* 1983. *Regnum Vegetabile* 110.
7. The dégree of Doctor of Philosophy awarded in German universities at that time, although often requiring fewer total years of university study, can at least be regarded as the direct precursor of the Ph.D. as we know it. (See Boivin, B.

Botanical societies in Canada. 1984. *Plant Press* [Mississauga, ON] 2:103–106.) A number of prominent American and Canadian botanists of the late nineteenth century, although not of German descent, had studied at and in some cases received doctorates from German or Swiss universities.

8. Lehmann, H. (G.P. Bassler, translator & ed.). *The German Canadians 1750–1937: Immigration, Settlement & Culture*. 1986. St. John's: Jesperson Press. pp. 56–57.
9. It should be noted that, in histories of the Lutheran Church and German settlement in Canada, the name "Sebastopol" often refers to the community by that name in Perth County, Ontario, rather than to the township in Renfrew County.
10. Lee-Whiting, B. *Harvest of Stones: The German Settlement in Renfrew County*. 1985. Toronto: University of Toronto Press.
11. Environment Canada Lands Directorate. *Canada Land Inventory: 1:1,000,000 Map Series Ontario. Soil capability for agriculture*. 1975. Catalogue No. En64–12/3.
12. *Centennial Book, St. John's Lutheran Church, Sebastopol Township*. 1962. Not seen in this study; quoted by B. Lee-Whiting, in epist., 1987, and cited in *Harvest of Stones*.
13. Lee-Whiting, B., op. cit. 1985.
14. *Centennial Book, St. John's Lutheran Church*.
15. Years earlier, affiliation with the Church of England had been a common practice among the clergy of the Lutheran and other churches poorly represented in the Canadian population, because their own denominations had no Canadian organization and because the income of Anglican clergymen was supplemented by the Crown. Neither of these conditions prevailed in 1865.
16. U.S. naturalization papers, Palatka, Florida.
17. *Centennial Book, St. John's Lutheran Church*.
18. *Fuller's Counties of Leeds, Grenville, Lanark, and Renfrew Directory, for 1866 and 1867: Containing a Separate Alphabetical Directory for Every Town and Village in the Counties, Together with an Appendix of Useful Information, &c., &c., &c.* Toronto: O.L. Fuller, Publisher.
19. B. Lee-Whiting, in epist., 1987.
20. Ibid.
21. Prior to 1867, Lutheran churches in Canada had constituted the Canada Conference of the Pittsburgh Synod. The Canada Synod was established in 1867, but the Pittsburgh Synod maintained a "mother-daughter" relationship with the Canada Synod and regularly received reports from it.
22. Cronmiller, C.R. *A History of the Lutheran Church in Canada. Volume I.* 1961. Waterloo: The Evangelical Lutheran Synod of Canada.
23. Lavois, L. *The Arnprior Story 1823–1984*. 1984. Arnprior: Arnprior & District Historical Society. Republished 1984.Arnprior: H. Brittle Printing.
24. Lehmann, H., op. cit. pp. 57–58.
25. Photocopy of page listing Dyhrenfurths sent by Ms. Anne Steinfeldt; original (not seen) at Chicago Historical Society.
26. J. Ewan, pers. comm., 1986.
27. Clark, R.T., Jr. Reconstruction and the New Orleans German colony. 1940. *Louisiana Historical Quarterly* 23:501–524; Konrad, W.R. The diminishing influences of German culture in New Orleans life since 1865. 1941. *Louisiana Historical Quarterly* 24:127–167.
28. This letter was published in: Williams, W.H. The history of Carrollton. 1939. *Louisiana Historical Quarterly* 22:181–215. (Originally published 1876 as a pamphlet.)
29. Carroll, H.K. *The Religious Forces of the United States. American Church History Vol. I.* 1893. New York: The Christian Literature Co.

30. J. Ewan, in epist., 1986.
31. Cocks, R.S. Historical sketch of the botany of Louisiana. 1900. *Proceedings of the Louisiana Society of Naturalists* 897–1899:69–74. Reprinted in: Stuckey, R.L., ed. *Development of Botany in Selected Regions of North America Before 1900*. 1978. New York: Arno Press.
32. The limited information on Featherman known to botanical historians can be found in: Cocks, R.S., op. cit.; Barnhart, J.H. *Biographical Notes upon Botanists*. 1965. Boston: G.K. Hall & Co.; and Ewan, J. Bibliography of the botany of Louisiana. 1968 ("1967"). *Southwestern Louisiana Journal* 7:1–83. Featherman left Louisiana for Europe in 1875. The foremost Louisiana botanist during the rest of the decade was Joseph Finley Joor, who became curator of the museum of Tulane University in New Orleans about the same time. Father Auguste Barthélemy Langlois, of Pointe-a-la-Hache and later of St. Martinville, began his studies of the Louisiana flora in 1878, two years after Schaffranek's departure from the state.
33. Biographical data on Engelmann in this paragraph, including quotations, are from: Lawton, B. George Engelmann, 1809–1884: scientific father of the Garden. 1968. *Missouri Botanical Garden Bulletin* 56(6):10–17; and Soule, O.H. Dr. George Engelmann: the first man of cacti and a complete scientist. 1971 ("1970"). *Annals of the Missouri Botanical Garden* 57:135–144. For further sources, see: Stafleu, F.A., & R.S. Cowan. *Taxonomic Literature: A Selective Guide to Botanical Publications and Collections with Dates, Commentaries and Types*, ed. 2. *Volume I: A-G*. 1976. *Regnum Vegetabile* 94.
34. Eggert, H. *Catalogue of the Phaenogamous and Vascular Cryptogamous Plants in the Vicinity of St. Louis, Mo.* 1891. East St. Louis: the author.
35. On Wislizenus, Eggert, and other 19th-century botanists in the St. Louis area, see: Spaulding, P. A biographical history of botany at St. Louis, Missouri. 1908–1909. *Popular Science Monthly* 73:488–499; 74:48–57, 124–133, 240–258. Reprinted in Stuckey, R.L., ed., op. cit.
36. Publications of the St. Louis Academy of Science for the relevant years, of which there are complete sets in the library of the Missouri Botanical Garden, include lists of members.
37. Newton, J.H., G.G. Nichols & A.G. Sprankle. *History of the Pan-Handle; Being Historical Collections of the Counties of Ohio, Brooke, Marshall and Hancock, West Virginia*. 1879. Wheeling: J.A. Caldwell. Although now meeting at a different site and using the English language, St. John's still exists as a congregation of the United Church of Christ.
38. *W.L. Callin's Wheeling City Directory for 1880*. Wheeling: W.L. Callin.
39. I am very grateful to Ms. Audra Wayne of the Ohio County Public Library for searching for such material and for making the references cited here available for my study.
40. Bartholomew, E.A. Henry Ney Mertz. 1963. *Castanea* 28:103–107.
41. Boone, W. *A History of Botany in West Virginia*. 1965. Parsons: McClain Printing Company; Core, E.L. The botanical exploration of the southern Appalachians. 1970. *Virginia Polytechnic Institute and State University Research Division Monograph* 2:1–65; Hall, G.A. History of West Virginia Ornithology. 1983. In: Hall, G.A. *West Virginia Birds: Distribution and Ecology. Special Publications Carnegie Museum of Natural History* 7.
42. *Canadian Horticulturist* 3:160. 1880. In signing this letter, Schaffranek identified himself as "president of the Natural History Society of West Virginia." This is the only anglicization of the name of the Naturhistorische Gesellschaft that I have encountered in this study.
43. Compiled by the Works Progress Administration. Original in the Putnam County Archives; copy kindly supplied by Ms. Janice S. Mahaffey.
44. On the early history of botanical exploration in Florida, see appropriate chapters

in: Rodgers, A.A., III. *John Torrey: A Story of American Botany*. 1942. Princeton: Princeton University Press. Republished 1965. New York: Hafner Publishing Co.; Rodgers, A.A., III. *American Botany 1873–1892: Decades of Transition*. 1944. Princeton: Princeton University Press. Republished 1968. New York: Hafner Publishing Co. On the Bartrams, see: Berkeley, E., & D.S. Berkeley. *The Life and Travels of John Bartram: From Lake Ontario to the River St. John*. 1982. Tallahassee: University Presses of Florida; Bartram, W., with annotations by F. Harper. Travels in Georgia and Florida, 1773–74: A report to Dr. John Fothergill. 1943. *Transactions of the American Philosophical Society*, n.s. 33:121–242, pl. I-XXVI.

45. Garber, A.P. Botanical rambles in East Florida. 1877. *Botanical Gazette* (Crawfordsville) 2:70–72, 82–83.
46. Rodgers, A.D., III, op. cit. 1944.
47. Schaffranek, A. The flora of Palatka and vicinity. *The Palatka Daily News*, Vol. II, Issue 226, November 21, 1885, p.1.
48. Cranmer, G.L., et al. *History of the Upper Ohio Valley, with Family History and Biographical Sketches: A Statement of its Resources, Industrial Growth and Commercial Advantages* ... 1890. Madison, WI: Brant & Fuller. (Laupp family 2:357); Boyd, P. *History of Northern West Virginia Panhandle Embracing Ohio, Marshall, Brooke and Hancock Counties*. 1927. Topeka and Indianapolis: Historical Publishing Company. (Laupp family 1:413–414); *W.L. Callin's Wheeling City Directory for 1882*. I am grateful to Ms. Audra Wayne for locating and providing copies of these references.
49. On native and naturalized species of *Cuphea* in the United States, see: Graham, S.A. Taxonomy of the Lythraceae in the southeastern United States. 1975. *Sida* 6:80–103. Schaffranek's *C. micrantha* is not mentioned in this paper.
50. Schaffranek, A. *Floral Almanac. Containing the Flowering Season of One Thousand Seven Hundred Phaenogamous Plants of Florida*. 1888. Palatka: published by the author (printed by the Palatka News Publishing Company). (From the title page; on the wrappers, the title appears as: *A Floral Almanac of Florida*.)
51. Chapman, A.W. *Flora of the Southern United States*, ed. 1. 1860. New York: Ivison, Phinney & Co.; ed. 2. 1883, same publisher. (A third edition was published in 1896.) On Chapman, see pp. 50–51 in: Humphrey, H.B. *Makers of North American Botany*. 1961. New York: The Ronald Press Company.
52. Arndt, K.J.R., & M.E. Olson. *German-American Newspapers and Periodicals 1732–1955*. 1961. Heidelberg: Quelle & Meyer.
53. Barnhart, J.H., op. cit. in note 30.
54. John Kunkel Small (1869–1938) studied and published extensively upon the flora of the southeastern United States from 1891 through 1938. His best-known works are his *Flora of the Southeastern United States*, published in 1903, and its successor, *Manual of the Southeastern Flora*, published in 1933. The letter from Wattles cannot now be located in the archives of the New York Botanical Garden, where it was reportedly seen by Barnhart, nor is it mentioned in the two finding aids to this collection, according to Mrs. Jane Brennan, Assistant Librarian, in epist., 1985. Schaffranek is not mentioned in the extant letters from Ranson to Small.
55. The Check List Committee of the Engelmann Botanical Club. *A Preliminary Check List of the Cryptogams and Phanerogams in the Vicinity of Saint Louis, Missouri*. 1911. St. Louis: Engelmann Botanical Club.
56. Old friends attend Dr. Schaffranek's funeral. *Daily St. Charles Cosmos-Monitor*, Thirty-fourth year – No. 270. November 16, 1923, p.1.
57. No other survivors were mentioned in Schaffranek's obituaries. A Fridericus Guilelmus (latinization of Friedrich Wilhelm) Schaffranek, born in Kostenthal, Oberschleswig, in 1823, received his doctorate in medicine from the university

in Breslau (now Wroc aw, Poland) in 1847; his dissertation, on rhinoplasty, was published in Bratislava. Because of the similarity of his name to that of Anton Schaffranek's father, one might suspect that he and Anton Schaffranek were brothers. However, neither he nor any possible nieces or nephews were mentioned in any of the articles or documents seen in this study.

58. Another old resident gone [obituary of Bertha Gatzweiler Schaffranek]. *Daily St. Charles Cosmos-Monitor,* Thirty-fifth year – No. 142. June 16, 1924, p.1.

59. I am very grateful to Ms. Ann King of the Kathryn M. Linnemann Branch Library, St. Charles, for searching for and sending copies of these documents and also for copies of the obituaries of Dr. and Mrs. Schaffranek in the *Banner-News* and *Cosmos-Monitor.*

60. Many taxonomic monographs list specimens by collector. A recent paper on *Salix* (willows), for example, listed over a thousand herbarium specimens from Florida alone and hundreds more from West Virginia, in numerous herbaria all over North America, but none that had been collected by Schaffranek. Conversely, an account of the herbarium of Isaac Comly Martindale, one of the largest private herbaria in American history, listed over 900 individuals who had collected specimens therein, many of whom had exchanged specimens directly with Martindale, others of whom had assembled sets of specimens that were divided up for further exchanges or sales by the original recipients. Schaffranek's name was not in this list of collectors, nor in any of many other such lists examined during the course of this study.

MISCELLANEOUS ANNOUNCEMENTS

Suitable for Cultivation: **Horticultural Collections at the University of Delaware Library.** This catalogue was compiled to serve as a guide to the Unidel History of Horticulture and Landscape Architecture Collection. This collection "covers every aspect of the field, from agriculture through floriculture, from art historical subjects such as landscape architecture and park design to more scientific ones ... ", with emphasis on the development of horticulture in America. The illustrations taken from the collections are fascinating and interesting examples of the richness of this superb collection.

Available upon request from Special Collections, University of Delaware Library, Newark, Delaware, USA, 19717-5267

Researching a garden's history from documentary and published sources, by David Lambert. Landscape Design Trust, in association with the Centre for the Conservation of Historic Parks and Gardens, 1991, 20 pp. ISBN 0 09518377 0 2.

Although written for the British scene as a "introduction to some of the resources available for research into the history of gardens", the guidelines of documentation and procedures are useful to follow whenever one embarks on a new project.

Available from the author at the Centre for the Conservation of Historic Parks and Gardens, University of York, King's Manor, York, United Kingdom Y01 2EP at £5.20 plus £1.50 for postage.

CRM (Cultural Resources Management), vol. 14 (6) 1991. 20 pp. 'The articles contained in this issue are representative of the diversity of cultural landscapes and the range of activity underway in the research, documentation, planning, and management of these resources in the United States. In addition, two international articles are included which highlight the similarities the United States shares with Canada and the United Kingdom in developing appropriate management policies and guidance for landscapes, as well as the difficulties in balancing visitor use and preservation.' The Canadian contribution (pp. 22-23) was written by Susan Buggey on **Managing cultural landscapes in the Canadian Parks Service**.

A technical supplement, **Interdisciplinary research in historic landscape management,** by Gerald K. Kelso 'addresses the contribution of pollen analysis to interdisciplinary landscape research.'

For information write to:
Robert R. Page Manager, Cultural Landscape Program
Park Historic Architecture Division
United States Department of the Interior
National Park Service
P.O. Box 37127 Washington D.C. 20013-7127

Historic Landscape Directory: A source book of agencies, organizations, and institutions providing information on historic landscape preservation. Editor: Lauren G. Meier and compilers. Prepared by the Preservation Assistance Division, National

Park Service, Washington, D. C. In collaboration with The Catalog of Landscape Records; in the United States, Wave Hill, US ICOMOS Historic Landscapes Committee, September 1991. 94 pp.
Certainly a good start. Additions, corrections are solicited, and an updated edition is scheduled to be published in 1993.

For copies and further information write to:
Technical Preservation Services Branch
Preservation Assistance Division
National Park Service, 424
P.O. Box 37127
Washington, D.C. 20013-7127

The 1914 Look. Landscape and Gardens of Waterloo County by George Bechtel. Doon Heritage Crossroads, Heritage Resources Department, Regional Municipality of Waterloo, 1991. 221 pp. Spiral bound.

This is the kind of publication we need for defined geographic areas and time periods, pulling all known resources together with all the references.

For further information write Doon Heritage Crossroads, RR#2
Kitchener, Ontario, Canada N2G 3W5

Sandy Hill - Landscape suggestions. Heritage Programmes Unit, Dept. of Recreation and Culture, Ottawa (1990?).

This 81/2" x 11" 3-leaved bilingual pamphlet is a laudable attempt to make the inhabitants of 19th-century houses aware of possible pitfalls when trying to design so called authentic heritage garden to compliment the 19th-century homes. The pamphlet provides a short list of common and scientific names of appropriate plants. With suggestions such as 'try to avoid natural wood, transparent stains (particulary redwood finishes), concrete pavers and bricks in bright contemporary colours; railway ties, chain link fences, woodchip mulches and free-standing lightposts near the house'. Suggestions written in a simple and direct language easy to comprehend by anyone, including these not trained in the discipline of 'heritage landscape' of our post-modern environment.

Although written specifically for residents of Sandy Hill Heritage Conservation District in the City of Ottawa, this pamphlet raises many useful points for owners of heritage homes and community interest groups contemplating individual or community efforts to employ the heritage garden idea.

Heritage garden for your Ottawa house, 1990. This 30-page booklet begins with a short introduction about "heritage gardens and gardening" with good reference information on organizations,publications, nurseries etc.

Available from Heritage Programmes Unit, Culture Division, Dept. of Recreation and Culture, 11 Holland Avenue, 2nd floor, Ottawa, Canada K1Y 4S1

Gardens of dreams: **Kingsmere and Mackenzie King** by Edwinna von Baeyer, Toronto, Dundurn Press, 1990. 240 pages, 20 colour, 80 b&w illustrations. ISBN 1-55002-080-3. $39.95 (cloth).

Another well researched, well written book by Edwinna von Baeyer known as a writer on landscape history, gardening and heritage preservation issues. Through King's diaries, 'von Baeyer was able to record his personal interest in his country estate at Kingsmere in the province of Quebec. **Gardens of dreams** chronicles his

fifty years at Kingsmere ... For King, the estate was a refuge and a status symbol-above all an enormous canvas for him to fill with flowers, trees, roadways and European inspired ruins on the Canadian Shield. The King estate is unique in Canadian landscape history both for the historical interest of its surviving landscape records and for the corroborative explanations in King's extensive diaries. All of this material has been brought together in a popular format, designed to appeal to a general audience interested in Canadiana, the life of Mackenzie King and gardening.'

Available from your bookstore or from Dundurn Press, 2181 Queen Street East, Suite 101, Toronto, Ontario, Canada M4E 1E5.

Philatelic News

A series of stamps, depicting Canadian gardens, was issued May 22, 1991. These five 40 cent commemorative stamps can only be purchased in booklet form - ten stamps for $4.00 plus 0.28 cents for G.S.T. The gardens featured are:

Halifax Public Garden, Halifax, Nova Scotia (est. 1830)
Jardin Botanique de Montreal, Montreal, Quebec (est. 1931)
Royal Botanical Gardens, Hamilton, Ontario (est. 1941)
International Peace Garden, Boissevain, Manitoba and Dunseith, North Dakota (est. 1932)
Butchart Gardens, Victoria, British Columbia (est. 1904)

Two Toronto artists co-operated in designing the stamps. Gerald Gauci is responsible for the illustrations of the individual plants in the foreground and David Wyman for the design of the landscape view of each garden. Individual flowers chosen for each stamp are listed for each garden as above: red rhododendrons, Montreal roses, purple lilacs, yellow marigolds and the blue Tibetan poppies.

A souvenir edition stamp booklet is also available for $6.95. For more information please contact Media Relations, Ottawa, Canada. (613) 734-7673.

ERRATUM

Page 155, Volume 2 (3), 1990

A PRELIMINARY BIBLIOGRAPHY OF THE PUBLISHED WRITINGS OF LORRIE ALFREDA DUNINGTON (1877–1945) AND HOWARD BURLINGTON GRUBB (1881–1965)